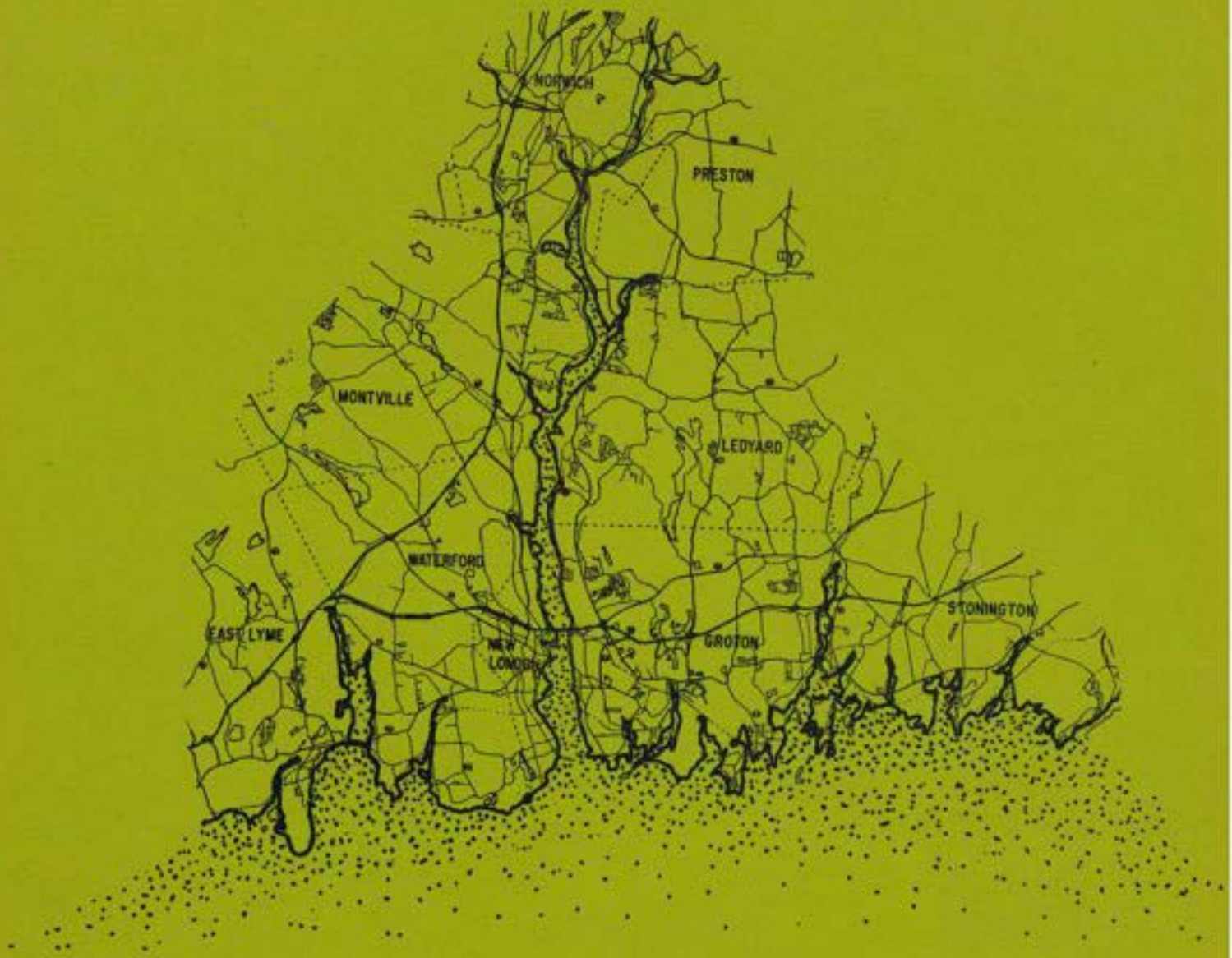

COASTAL AREA MANAGEMENT

A LOOK AT ISSUES AND ALTERNATIVES

OCTOBER 1975

COASTAL AREA MANAGEMENT

A Pilot Study conducted by the Southeastern Connecticut Regional Planning Agency with the help of a task force of local officials, under contract with the Connecticut Department of Environmental Protection, Office of Coastal Area Management.

Southeastern Connecticut Regional Planning Agency
139 Boswell Avenue, Norwich, Connecticut 06360

October, 1975

SOUTHEASTERN CONNECTICUT
REGIONAL PLANNING AGENCY

139 Boswell Avenue, Norwich, Connecticut 06360
(203) 889-2324

31 October 1975

Mr. Joseph N. Gill, Commissioner
Connecticut Department of Environmental Protection
State Office Building
Hartford, Connecticut 06115

Dear Commissioner Gill:

As Chairman of the Southeastern Connecticut Regional Planning Agency, I am pleased to submit to you 250 copies of the Southeastern Connecticut Coastal Area Management Pilot Study.

As you know, the purpose of the study was to recommend policies, programs, and procedures by which local government and regional planning agencies can be effectively involved in coastal area management processes. As part of the study, a task force of local officials from the Southeast Region was organized for the express purpose of working with the staff to accomplish the goals of the study. The Task Force met on Wednesday, July 16, 1975 to review a first draft of the Conclusions and Recommendations section of the pilot study. Based on comments received at that time, a second draft was prepared. On Wednesday, October 22, 1975 the Task Force met again and in the presence of several staff members and representatives of the State Coastal Area Management Advisory Board, including myself, endorsed the substantive recommendations of this report.

One of the major recommendations endorsed by the Task Force concerns the content and timing of the submission of state legislation for coastal area management. Due to the nature of this recommendation it is apparent that it will require the immediate attention of the State CAM Advisory Board.

Sincerely,

Gurdon H. Slosberg

Gurdon H. Slosberg
Chairman

GHS/al

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News Articles.

Letter, Waterford Planning and Zoning Commission.

Reprint, Environmental Review Team, Planners Notebook.

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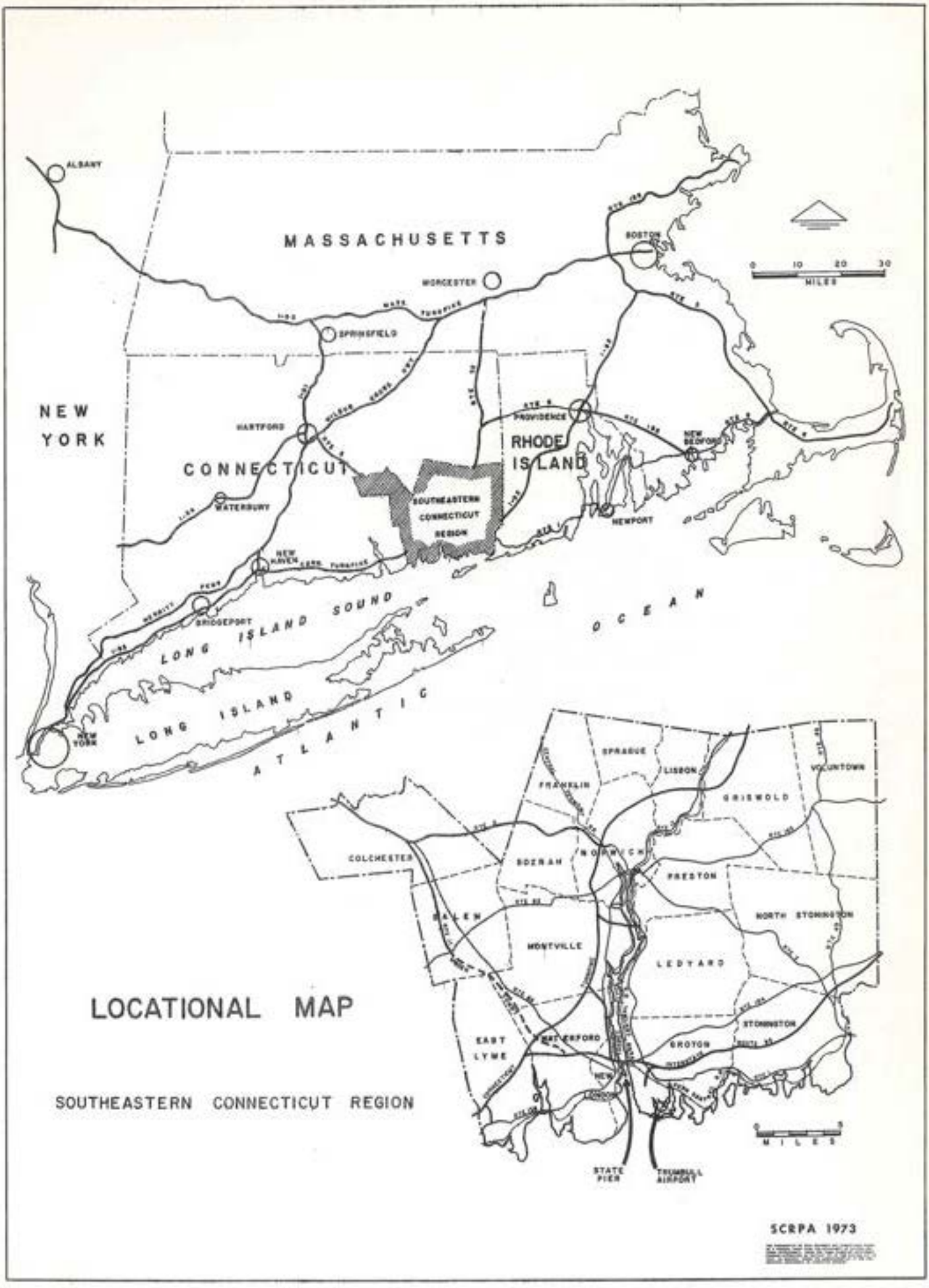

LOCATIONAL MAP

SOUTHEASTERN CONNECTICUT REGION

SCRPA 1973

I. INTRODUCTION

This is the final report of a one-year pilot study conducted by the Southeastern Connecticut Regional Planning Agency. The project was conducted under contract with the Connecticut Department of Environmental Protection, Office of Coastal Area Management, for the purposes of "recommending policies, programs and procedures by which local governments and regional planning agencies can be effectively involved in Coastal Area Management processes." (See contract, Appendix 2.) The Southeastern Connecticut region was chosen as the study area because most of the land and water uses and the major problems facing Connecticut's coastal area are present in this area. Further, it was assumed that conclusions and recommendations drawn from the pilot study experience in this region could be generalized and transferred to the other coastal regions in Connecticut.

The contract under which this pilot study was conducted stipulated the completion of five background studies and a final report containing conclusions and recommendations of the study. The five background reports are included with this document in Appendix 1. For a full appreciation of the CAM issues discussed in this report, we recommend that the background documents be read.

The first background paper examined methods for establishing a land boundary for the coastal area. In addition, the paper identified a number of central issues related to the creation of a special coastal area management system. The second paper examined the natural resource base in the coastal area and analyzed the human impacts, as well as the natural stresses, which are applied to that base. The third paper described and analyzed the jurisdictional environment in which a coastal area management system would have to develop. The fourth paper reviewed a broad range of federal, state, regional, and municipal plans pertaining to coastal land and water use to determine the degree to which these formal public policies influence or contribute to pressure on the coastal area. The fifth paper studied the decision-making process in the granting of permits for selected projects completed or proposed in the coastal area.

It is important in considering the issues to be discussed that the reader understand some of our assumptions. Central to these assumptions is the distinction between the planning phase of CAM and the actual management of the coastal

area. The planning, or pre-management, phase is presently in progress. It will continue through the summer of 1977. The management phase is an open-ended process which follows planning. It may or may not take place several years from now depending on a number of variables. In legislative language, the distinction between the phases is created by the use of the numbers "305" (planning), and "306" (management), referring to the sections of the Federal Coastal Zone Management Act of 1972 which make provisions for each phase.

Most of the attention in this project has been directed toward the problems surrounding the formal adoption of the Section 306 management principles by the electorate. This is the key problem addressed by this study. We have assumed that in accepting federal Section 305 planning funds the state intends to try to satisfy federal criteria for the receipt of 306 management funds after 1977. Since the state has already received a 3-year planning grant, the mandate for planning is not really an issue. The issue or potential area of conflict, as we see it, is how to move from the planning phase to a legislative mandate to "manage the coastal area" in a way which satisfies federal criteria and makes Connecticut eligible for Section 306 funds.

II. THE ROLE OF THE TASK FORCE

INTRODUCTION

One of the major work elements in this pilot study was to organize key local officials into a task force whose purpose, as stated in the contract between SCRPA and DEP, was "...to determine the types of pressures and types of alternative decisions faced by them [local officials] in considering issues related to the development of the coastal area. Task force members will include but not be limited to members of local conservation commissions, planning and zoning commissions, inland wetland commissions, and selectmen. Task force members will be convened at least once a month during the course of the program and will be asked to express their views and ultimately make recommendations concerning structure, jurisdiction, potential areas of cooperation across governmental boundaries in addition to other areas of perceived need for change. Also a major concern for the task force will be areas of potential lay citizen involvement in the coastal area management procedures."

The emphasis of this task force process differed significantly from a conventional citizen participation process in a number of ways. Most notably, our objectives were not to "educate" citizens, or necessarily to win support for CAM. Our major objective was educating staff, not the task force. Additionally, our profile of the "average" task force member was based on the assumption that they were not lay citizens at all but elected or appointed officials who, by virtue of their status and special responsibilities, were already well educated as to the nature of coastal-related decision-making problems.

It was our fundamental assumption that local officials, because of their status and presumed awareness of coastal-related problems, would be sufficiently obligated, motivated, and willing to serve actively on the task force. Recognizing the tenuous and potentially naive nature of this assumption, we proceeded to test it by contacting a wide variety of officials to ascertain if there was any informed knowledge about, or actual interest in, coastal area problems. This was accomplished through a personal memo written by the chairman of the Southeastern Connecticut Regional Planning Agency to the chief municipal executive and the chairman of each planning, zoning, conservation, wetlands, economic development, historic district, and recreation commission in the nine municipalities bordering Long Island Sound and the Thames River Estuary. (See Appendix 2.) In addition to the above, each Chamber of Commerce in Norwich and New London was contacted, as well as several redevelopment agencies, Leagues of Women Voters, and other bodies with a predetermined interest in regional or community affairs.

A number of policy decisions were made, one of which was not to invite comparable representatives from the inland municipalities. This decision was made primarily to keep the task force to a workable size, since the above mailing totaled almost 90 officials or organizations. In retrospect, it also somewhat reflected our own ambivalence about the CAM act and generally about incentives, or lack of them, for people volunteering their time and energies to serve in this capacity. This ambivalence was expressed in a prospectus prepared by SCRPA for DEP which preceded the final contract. It read as follows:

"Since it is probably unrealistic to consider regional planning agencies in Connecticut as anything more than the sum of the interests of all of their individual constituents, then there are distinct limits as to the role which an

agency such as this can be expected to play. Related to this concern, we find considerable ambiguity in the projected status of local officials and the public in general under this program.

"On the one hand, Section 920.30 of Volume 38, #229 of the Federal Register projects the principle that: 'Public participation is an essential element in the development and administration of a coastal zone management program. Through citizen involvement,...needs and aspirations can be reflected in use decisions ...and public support for the management program can be generated.'

"At the same time, Section 920.20 (d) strikes an emphatically different pose by stating that: 'It should be pointed out that since the primary emphasis of the coastal zone management program is to create the mechanism for states to exert appropriate control over land and water uses...'

"Obviously, such blatant differences in the anticipated status of local officials or citizens make it difficult for an agency representative of those interests to proceed to assume a counter role. Without any state legislation clarifying these roles, and in light of other such ambiguities, the Agency is not prepared at this time to proceed either as an advocate or as an adversary of any set of interests but to act as a convening agent of the major interests involved in order to clarify the major difficulties outlined in this document."

The prospectus continued by saying, [the] "Success of this project will be largely a function of the degree to which local officials perceive coastal area management to be a problem worthy of their time and consideration and are willing to serve on our task force. Consequently, we intend to contact local officials as soon as possible following approval of this prospectus to determine their interest in the coastal area management problem. Should we not receive a convincing response, it will require us to alter our strategy significantly. It is also possible that even though a positive response is initially received, cooperation and interest will diminish as the project continues. This is a risk which we fully recognize."

Our prior experience with citizen participation told us that local officials are not too much different from lay citizens when it comes to incentives. The

most universal motivator for voluntary participation is negative stimulus, a threat of some kind, like a super highway planned for a residential neighborhood. This factor made us instinctively suspicious of the presumptions surrounding the motivations and incentives for local officials, or anybody else, to volunteer their time and energy. The problem we recognized was that there was very little of tangible value that we could offer the participants in return for their efforts, and this lack would undoubtedly act to undermine the process. Given these limitations, we stressed the "opportunity" for local officials to help shape the direction of state coastal area management. The negative implication was that if they did not participate on the task force they risked losing the change to influence a program that ultimately would affect them.

The letter from the SCRPA Chairman inviting local officials to participate read in part:

"When ultimately defined, the coastal zone in Southeastern Connecticut will include a significant amount of land bordering on Long Island Sound and the Thames River. Nine towns in Southeastern Connecticut stand to be directly affected by the coastal zone land use policies and procedures developed by the State. Fortunately, the special SCRPA study will provide an opportunity for local officials in this region to express their needs, concerns and views to the state and potentially influence the overall design of the state coastal area management program."

In hindsight, this last factor was somewhat of a pretense on our part. How much real, direct, or meaningful influence the task force could have exerted in shaping the overall design of the state program was probably quite limited given the terms of the contract between SCRPA and the State of Connecticut and the contract between the state and the National Oceanic and Atmospheric Administration (NOAA) in which the responsibility for meeting the requirements of the federal act rests exclusively with the state. At best, the role of the task force was advisory to the Regional Planning Agency, which is itself an advisory body.

FORMATION OF THE TASK FORCE

The invitation was accompanied by a fact sheet on the CAM act and a postcard on which the recipient was requested to indicate his or her interest in serving on the task force. In total, twenty-nine individuals, or approximately

1/3 of the people contacted, expressed interest in the task force and stated that they, or a designee, would serve. While the original mailing list covered a wide variety of interests in all 9 towns, only 7 of the towns indicated an interest through their respondents. Conservation commissions were by far overly represented, while planning, zoning, economic development, and political interests tended to be under-represented. This was to strongly influence the future behavior of the task force. (See Participant List, Appendix 2.)

Our strategy to gain the attention and interest of a spectrum of local officials was not fully successful. We can speculate that one reason for its failure was that many local officials may have found the issues and objectives addressed by CAM to be too diverse. They may also not have perceived implementation of the act as a threat to their power and status requiring their immediate attention. Even had they considered CAM a threat, they may very well have thought that the task force was not a meaningful vehicle for dealing with it.

While the regional pilot study began in July, 1974, the state did not hire a director for the statewide program until November. The pilot study staff felt that it was unreasonable to ask local officials to participate on an ad hoc task force under the pretense that the study was working in conjunction with an ongoing state program. Therefore, the decision was made not to begin work with the task force until after the state CAM director was hired.

The first task force meeting was attended by 19 people. At that meeting the newly hired state CAM director acted as moderator. He gave a slide presentation on the Connecticut coastal area and answered questions about the Federal CAM Act and the goals and objectives of the state CAM program. (See Appendix 2.) The overall purpose of the task force was also discussed. There was a considerable amount of confusion about both the advisory role of the task force and the necessity for the entire CAM program, given the fact that the New England River Basins Commission was just completing a $3.5 million, 3-year study of the Long Island Sound. A number of individuals expressed the concern that management should begin now, and "the last thing the state needs is 3 more years of planning." There was considerable disagreement over this last point. Additionally, the issue of the meaningfulness of the role of the task force was discussed. While the problem was discussed at length, it was never fully resolved at this, or even subsequent, meetings. This clearly had a negative effect on the interest and participation

of some task force members.

Subsequent meetings of the task force dealt with 4 main issues: (1) a survey of task force members' views concerning coastal-related issues; (2) a review of the Long Island Sound study proposals; (3) a review of proposed CAM legislation introduced into the 1975 session of the Connecticut General Assembly; (4) preparation of recommendations on ways of involving citizens, RPAs and municipalities in the CAM process. Two meetings were consumed on each topic, making a total of nine meetings in which the task force met with the staff.

SURVEY OF THE TASK FORCE

From the beginning, the pilot study staff felt that if the coastal area management program was ever to develop, it would have to involve diverse interests. Since the task force was seen as a model for the involvement of diverse geographic interests, it was considered appropriate to test whether some consensus on basic issues of importance was achievable. If minimal consensus could not be achieved at a prototype level, then the theory of a cooperative management system to resolve conflict was questionable.

A survey was developed to test consensus. It consisted of 23 statements of coastal-related issues covering a wide spectrum from "inadequate planning," to "need for economic development" and "conservation of natural areas." (See Appendix 2.) The results of that survey are reflected in the following 5 priority issues as ranked by the task force:

1. Inability of existing land use control mechanisms to preserve resource values and provide options for future generations by minimizing irreversible commitments.
2. Lack of clear jurisdictional distinctions among various agencies with coastal responsibilities.
3. The problem of defining a reasonable, workable coastal zone boundary.
4. Need to integrate prospective coastal zone planning with on-going land use planning.
5. Lack of a manageable data base integrating past and present inventories and studies dealing with resource use conflicts and resource allocations.

Considerable discussion took place around each of the 23 issues. The survey provided a convenient and worthwhile vehicle to focus attention on the issues and to bring out the interests and biases of the task force participants. It is important to note that even with the predominant conservationist bias of the group, there was almost never an issue on which participants were in complete accord. Most notable in this regard was the wide range of response to the issue of the state increasing its control over land use. For example, some conservationist members felt strongly that the only way to "save the environment" was for the state to exercise its full authority and "take over" the responsibility from local officials who were not doing their job. Other conservationists felt just as strongly that such action was not feasible or appropriate. Of course, there were others who fell somewhere between the two extremes. Even with the apparent narrowness of interest represented on the task force, the wide response range to CAM-related issues set the predominant tone for all future task force discussions.

While there was a diversity of opinion on most issues, the predominant factor influencing the task force "consensus" was the overall conservation bias of the group. Had the group been more broadly representative, we believe that issues would not have been as "easily" resolved. We think this is an important factor to keep in mind relative to instituting a cooperative, "rational" (non-authoritarian) CAM system.

LONG ISLAND SOUND STUDY REVIEW

Shortly after our survey was completed, the Long Island Sound Study was conducting public hearings on its draft final report. Task force members felt that to improve their status as "an interested party in coastal matters," it was necessary that they review the LISS proposals for content. Several sessions were consumed in this endeavor, with the result that comments were made on behalf of the task force by the pilot study staff at the public hearing held in New London. The comments dealt mainly with the inadequacy of CAM-related proposals in the study but did not deal specifically with any of the other proposals made by the LISS. It should also be noted that the public response to the LISS at the New London hearing was predominantly negative for a variety of reasons. This response had a sobering and lasting effect on the committee's work from that point forward. (See statement, news clippings, Appendix 2.)

LEGISLATION

After the Long Island Sound Study hearing, the task force became aware of prospective coastal area management legislation introduced in the 1975 session of the Connecticut General Assembly. It was decided to invite the bill's sponsor, Senator George Gunther, to address the task force. Following Senator Gunther's presentation to the task force, the participants felt that the proposed legislation was unclear with respect to several issues which had already been considered by the task force. The most critical area of concern involved the jurisdictional authority of a state CAM board relative to local responsibilities for decision-making in the coastal area. Also of concern was the vagueness with which the boundary issue was presented in the legislation. Due to the possibility of passage of some form of coastal area management legislation, the task force members, at Senator Gunther's request, volunteered to help redraft the bill. This total process consumed three meetings, held at about 3-week intervals. In the ensuing discussions on the bill, the questions raised by the task force relative to Senator Gunther's bill could not be resolved despite honest and sincere attempts to do so. While no actual product emerged from this effort, valuable experience was gained for the last and final portion of the task force's activities, preparation of recommendations.

Throughout the above sessions, attendance at meetings remained stable, with most meetings drawing 12-16 people. The final phase of the task force activities saw a marked reduction in attendance. Our best explanation for this is that some members simply did not find the rate of task force activities compelling enough to sustain their interest. The staff was working within a fixed time frame at a fixed rate with fixed responsibilities established by factors completely beyond the control of the task force. Opportunities for the acceleration or redefinition of activities by task force members were limited. For some, realization of this may have dampened whatever interest they had at the beginning of the process.

There may also be a limited attention span for a diverse, informal group comprised of many members with, at best, limited interest in the specific task. It should be remembered that the members of this group did not, as individuals, each define a problem independently and then come together as a group on a basis of that definitional process.

PREPARATION OF RECOMMENDATIONS

In the final phase, the working task force was reduced to 5-7 participants whose interest and commitment to their town and CAM development clearly were not going to be extinguished under almost any circumstances. Overall, this group invested the hardest hours in developing and testing the models which appear in a later section of this report. This group also reassembled to review the first draft of this report and offered constructive criticism in areas where the report was weak and could be strengthened. (See cover letter.)

At that meeting, several members expressed considerable frustration at "the manner in which task force activities were conducted." Primarily, this concern was directed at the content of the first draft report, which some members felt did not reflect their views. We have reason to believe that had the first draft been well received, the criticism concerning the role of the task force might have been less.

Simultaneous release of the draft report to the state CAM staff, the Regional Planning Agency, some key local officials, and the task force also generated a degree of dissatisfaction. Some task force members felt very strongly that the task force had an exclusive right to determine the form and content of the report prior to its release to other parties for review and comment and that the release of the draft to these other parties abused their role and contribution as volunteers. While we can sympathize with this position, we cannot agree with it given the contractual relationship between DEP and SCRPA. However, we believe it is important to reflect on it as a real problem. How can local officials or citizens participating on an informal, voluntary basis be given a truly meaningful role in a program that is based on a formal and exclusive contract between two other public agencies?

EVALUATION OF THE TASK FORCE EXPERIENCE

It can be said that planners need citizens (local officials) in the planning process if for no other reason than to "keep them honest" and in touch with reality. Planners often have a tendency to fantisize about what "should be" and sometimes move to solve problems unrealistically. Citizens, and especially local officials, tend to be more pragmatic and can usually avoid this kind of planning

from getting out of hand. In the case of this task force, the need was considerably more narrow and specific. It was to get as much detailed information as possible about decision-making procedures that take place at the municipal level and how various coastal-related problems are perceived at that level. We also wanted to know whether solutions to these problems were possible and whether there was a role for citizens in decision-making.

While it can be said that this study would not have been possible without the help of the task force and the various individuals who gave of their time and talent, the task force itself was certainly not the only source of information. It was simply one of a number of sources. Since representation was "biased," overall objectivity was always a question. It was never clear whether the task force was representative of the world at large or only certain special interests. Sometimes the aspirations and desires of individual members to achieve change were so strong that it overtly colored their views. Sometimes this forced a role reversal with the planner in which the planner had to play the pragmatist. To a large extent, this report is cast in a fashion which attempts to balance many opposing views. That it does not advocate for a single view is probably why some of the task force members felt that the first draft "did not reflect their views."

The major contribution of the task force was not so much in the area of problem identification as it was as a kind of sounding board for new ideas. Additionally, the task force members were themselves a highly creative source of ideas. In the final analysis, this contribution of the task force, although not originally anticipated, turned out to be the truly significant one.

One of the task force problems was uneven representation of interests. With no clear decisions to make or status to make them, local officials were being asked to act more or less as consultants to the planner, merely in an advisory role. That representation and attendance was a problem can be directly attributed to the lack of positive incentives in the form of real decision-making authority.

In the final analysis, the evaluation of this component will probably fix on the answer to the question: Did the local officials fail to take advantage of an opportunity to participate or did the planners fail to provide an adequate opportunity for them? The answer, we believe, is not necessarily either. From our

vantage point, we think that throughout the course of the project, local officials took ample advantage of a number of formal and informal opportunities to: (1) express their feelings, (2) gain knowledge, and (3) demonstrate their awareness of issues. Most of them simply did it outside of the task force mechanism. They did it through the news media, private communication, public hearings, local commissions, the state legislature, and other more conventional channels, which is the reason we did not look to the task force exclusively, but attempted to gauge a total response from a wide variety of sources.

Are the results of this experience in CAM transferable to other areas of the state? To a large extent, we believe they are, although we have some serious doubts about overall transferability due to varying patterns of citizen support for CAM which exist in different parts of the state. For example, we believe that the continuing abstract nature of CAM will work against the program throughout the entire state. Until CAM actually begins to stand for, or be identified with, something, it will not be viewed with much deference. The longer CAM continues to exist without a clear image, the more difficult it will be to create one. The risk is that after a certain amount of time, local officials and citizens will simply come to view it as "just another way of wasting taxpayers' money."

We also have come to believe that the competitive nature of the interests involved in the coastal area renders the concept of a cooperative, rational approach to decision-making highly unlikely. It also seems unlikely, based on our experience, that the economic development interests will voluntarily participate in the formation of a program which will ultimately reduce opportunities for development.

III. REVIEW OF MAJOR ISSUES IN CAM DEVELOPMENT

This section presents and interrelates what the task force considered to be some of the key issues in coastal area management development. The principal elements of the issues discussed evolved as a part of the 4 task force activites discussed in the previous section.

In conducting this study and working with the task force, it was found that even though the justification for the Federal CAM Act is basically ecological (Section 302 (d),(g)), the emphasis which this has taken via the interpretation of the legislation by NOAA and many of the coastal states is reform in the land use management process. This tends to raise broad, far-reaching, socio-economic and political issues. The task force found that almost every issue concerned with CAM and its development has a socio-economic and political aspect as well as an ecological one.

Frequently, we also found that lower-order questions of an administrative nature for which answers were easily available surfaced, seemingly in an attempt to fill an information void which existed with respect to more difficult policy questions. More often than not, this simply tended to obscure real issues rather than to clarify them.

The task force had considerable difficulty in maintaining a consistent and clear perspective among the ecological, political, and administrative aspects of any coastal area management issue. We raise these points simply to alert the reader to the kinds of problems faced by the task force and to increase reader awareness when considering issues pertaining to CAM development.

ISSUE: THE FOCUS OF CAM

As mentioned in the beginning of this section, even though PL 92-583, The Coastal Zone Management Act, is quite broad, it is our opinion that CAM is basically being interpreted as a program to help institute land use management reform in a restricted geographical area. Since one of the key results of the present system of local land use management is the regulation of the property tax base, (meaningful) reform in the land use management system is closely tied to some kind of tax reform.

The task force saw the relationship between local land use management and the local property tax base to be fundamental to a number of problems related to development pressure in the coastal area. Since local governmental systems are dependent on it, the property tax also seems to be an important factor in the future development of CAM. While the task force recognized that development pressure in the coastal area is a function of many things, not the least of which

is that resources are limited, it nevertheless saw the property tax representing the key market variable subject to significant influence by the public sector. Additionally, the task force saw the local property tax structure influencing the behavior of a multitude of surrounding public support activities built upon it, of which local planning and zoning is one of the most prominent. The task force also recognized that the outcome of local planning and zoning can be very influential in determining the market value of land.

Consequently, the task force saw that any attempt to institute major changes in the land use decision-making system would be very difficult without also considering major changes in the tax structure. One of the conclusions of our work with the task force is that the socio-political climate in Southeastern Connecticut is not favorable to major changes in either local land use control or the tax structure at the present time. It was a combined conclusion of the task force and the pilot study staff that if this is true throughout the state then coastal area management objectives are going to (have to) be tempered by these political and economic realities.

If this view is correct, then the following questions raised by the task force seem relevant. What can coastal area management really accomplish given the limits within which it will have to work? How much reform is necessary to achieve the more narrow objectives of this program? Lastly, are the broad objectives of coastal area management worth the effort to achieve the requisite change?

Answering these questions proved difficult. The main reason was that the task force found the objectives of coastal area management, as stipulated by Section 302 (a) through (h) of the Federal Coastal Zone Management Act, PL 92-583, to be very unclear and even contradictory in some cases. The group felt that the complexity of the program tended to seriously erode its potential for broad public appeal and for achieving the necessary changes. The results thus far of parallel efforts to stimulate interest in coastal area management seem to have been rather unsucessful, in part due to weak and confusing recommendations with respect to purpose and intended outcome.

ISSUE: NATIONAL INTEREST

The federal CAM legislation created some anxiety, at least at the task force level, through the use of the phrase "national interest." The phrase is useful in understanding the nature of CAM because it promotes the ideal that land is a resource. This ideal, it was discovered, is not totally consistent with the more narrow, conventional prerogatives of private land ownership or local control of land use which tend to view land as a commodity.

The question is, exactly what is the national interest in the coastal area? The answer given in Section 302 (h) of the legislation is that there is a national interest in "issues of greater than local significance." The implication here is that all that is necessary to make national interest a workable concept is to develop a set of criteria to enable an administrative determination to be made. From the broad natural systems base on which CAM legislation is built as stipulated in Section 302 (g) the task force raised serious doubts as to whether any coastal development could be considered of "purely local significance." In other words, by broadening the interest base, the federal legislation has theoretically opened the door for any coastal development to be considered of greater than local significance. Through the task force, we found the fear expressed that once opened, this is a very hard door to close.

We also found through the task force that comparing the phrase "national interest" to the phrase "public interest," such as might be found in a zoning regulation or a health code, is not totally accurate or satisfactory. The "public," referred to in a zoning ordinance, is limited to the public within a closed jurisdictional system of public financing. This is the critical factor when it comes to dealing with the problem of shared responsibility. This raises the question as to whether or not it is really feasible to aspire to an abstract ideal of serving a national interest while maintaining the present form of local government tax structure. The reality is that the burden and responsibility for serving that broad national interest will not be shared evenly by the nation whose interest is at stake but only by the few coastal municipalities. This will occur due to the simple existence of a set of development restrictions not in effect for the nation's non-coastal communities. Consequently, interpretation of the phrase "national interest" seems to have far-reaching political and economic significance for the future development of the program.

At the administrative level, if the concept of national interest is ever to be embodied in any meaningful way, there will have to be major changes in the exclusive prerogatives of municipalities with respect to land use decision-making. This situation was seen by many task force members as one of the most perplexing and troublesome for CAM development primarily because the change is perceived at the municipal level exclusively in terms of loss. It could be argued that a shift in the power relationship represents a loss only in the sense that what was once exclusively held is now shared. But the intermunicipal competition for tax base is so fundamental to the existence of local government that it is unlikely a municipality will voluntarily tolerate even a marginal loss in land use authority. Neither is it likely to rationalize such a loss in terms of the ideal of shared responsibility for the greater good of a constituency outside its political boundary.

The only way the property tax and local jurisdictional system seems to absorb losses is when the loss is imposed, and when there is equity in the loss. The imposition of non-discriminatory regulations like Connecticut's inland wetlands regulations is a good example. Unfortunately, regulations promulgated under a CAM program could seriously discrimate against coastal municipalities unless some broad commitments were made to compensate municipalities for their potential losses.

ISSUE: DEFINITION OF MANAGEMENT

One of the most perplexing and lingering problems of this pilot study has been the task of determining specifically what constitutes management and exactly what it is that is to be managed. From our task force experience we found that what is at issue is the degree of control meant by the use of the term "management," who is to exert that control, and whose interests are to be served through the exertion of that control.

In general, when the term management was used, it was never clear to the task force if the term was being used euphemistically to mean regulation, planning or implementation, or some unspecified combination of the above. In pursuit of an answer, the task force found that because CAM is such a broad concept, it does not afford the simplicity of the control of a single, specific resource--

such as tidal wetland--where the objectives are relatively clear. Since CAM is a multi-resource concept, the management complexities geometrically expand with the diversity of types of resources to be managed and the various (sometimes conflicting) objectives of their management. As a result of our task force experience, we have also found that this diversity seems to obscure a clear, simple, straightforward justification for a new special type of management system.

If the task force experience is indicative, the lack of clear management objectives is a potential factor in undermining the local acceptability of CAM. Perhaps it is also necessary to suggest the possibility that the coastal area, however it is defined geographically, might not be manageable in the technical and socio-economic sense implied in the legislation. Hence, the proposition that the capability exists for the public sector to manage it might be false. We found this to be a very important concept to keep in mind when considering CAM development and acceptability issues.

A major part of the difficulty with the definition of management seems to be the failure to answer the question, "management for what purpose?" Providing an answer to this question proved especially difficult for the task force given: (1) existing restrictions on using private property for public purposes (taking); (2) existing regulatory statutes which already protect many critical natural features; and (3) the local jurisdictional systems which are dependent on the continuation of existing arrangements. What is left are two very imprecise management scenarios, one dealing with long-term factors and the other with short-term.

The long-term scenario broadly suggests that the forces of nature, tides, winds, storms, etc., are the real long-term managing forces of the coastal area, over and apart from some of man's so-called irreversible alterations. The major implication of this is that man's concern for the immediate management of the coastal area for either economic or ecological purposes is largely irrelevant over the long-term. Thus, hurricanes and 100-year floods are nature's way of "managing" the coastal area and correcting man's "damage."

This scenario does several things. First, it tends to attribute purposeful wisdom to the forces of nature. While we are suspicious of the over-simplicity

and usefulness of such an explanation, nobody on the task force felt they were in a position to completely dismiss such a theory. The sub-implication of this explanation promotes the idea that most of man's activities in the coastal area, both in the economic development and management sense, are of a damaging character. At the same time, the explanation completely separates man from nature while minimizing any legitimacy of or importance to man's public and private short-term needs in the coastal area.

The short-term management scenario does the opposite with respect to man and nature. It places total importance on man's various short-term interests and uses of the coastal area, including the need for management. Under such a scenario, the problem of management fixes on the development of an adaptable administrative arrangement which simply serves to mediate the short-term interests involved. A definition of management resulting from this scenario would answer only the who, how, and where aspects of CAM. By implication, it would be only secondarily concerned with the long-term ecological purposes of management. Management would simply be an administrative process serving man's interests in the most equitable manner possible at a given point in time.

While neither of these scenarios provides us with a firm basis for a definition of management, or tells us what is to be managed or why, they may be the best we have at the present time.

ISSUE: INSTITUTIONAL CHANGE; PLANNED AND POLITICAL

An important distinction needs to be made between the planning process and the political process as vehicles to bring about institutional change. Through its work with the task force, SCRPA has found that the distinction between planning and politics is an important one with respect to the parameters within which a CAM program must develop. Perhaps in this light it is useful to discuss some of the general elements of planning and politics as they might influence the outcome of CAM development.

The planning process is based on the rational model of behavior. It assumes that people are rational and if provided with accurate information (truth) will alter the perception of their own self interests and ultimately change their behavior on the basis of that information. It is an intellectual endeavor which

gains support from scientific and technical data. In its pure form it has a tendency to view solutions to technical problems in terms of one best answer. The 1964 Surgeon General's report on cigarette smoking was an attempt to appeal to the rational sense of cigarette smokers to change their behavior based on scientifically sound data and information. At latest count, national per capita cigarette consumption rose to an all time high in 1974.

The American political process is based simply on the existence of self-interest and the freedom to pursue those interests as a basic right. The system then simply assumes that people have interests, know what those interests are and will act to protect or further them. Moreover, the political system recognizes the pluralistic nature of self-interest and simply tries to provide a process through which compromise can be achieved peacefully. Within broad limits it holds no pretense about the character of interests, either right or wrong, rational or irrational according to any preordained technical standard. The political system is also capable of accommodating a wide range of solutions due to the non-technical nature of compromise. Power, rather than intellect, is the millstone of the political process. Consequently, the two processes, the political and the planning, are not inherently compatible and problems frequently arise when planning is employed as a basic technique to deal with non-technical, political or social problems.

With this in mind, the task force recognized certain inherent elements in the CAM development process which would be bound to affect its future acceptability. First, as defined by the federal CAM legislation, national interest in the coastal area seems to be characterized as a rational one, as opposed to the present system which is characterized as a self-serving, consuming one. Secondly, the state CAM program, as established through the federal legislation, is basically a planning program employing planning techniques and technical planning staff to bring about considerable political change in a system of myriad interests which is at best only randomly rational. Thirdly, all of this change is expected to take place in an exceedingly short period of time.

This led the task force to believe that the timing and form of the CAM development progression from Section 305 planning to Section 306 management renders the overall chances for success of the program as presently specified, at best, random. The basic assumption leading to such a conclusion is that there will be

no changes in the federal legislation which would extend the 305 planning period beyond 3 years or alter the nature of the 306 requirements. What seems to be presently lacking is a state contingency plan to deal with the situation if Connecticut is unable to fulfill the federal requirements at the end of the Section 305 grant period in 1977.

ISSUE: CONCERN FOR ADMINISTRATIVE DETAILS

At this stage in the development of CAM, it is believed that administrative details should be of a lower order of magnitude in light of some of the more basic unanswered policy questions. Yet through the task force we found that concern for boundaries, for example, which are basically administrative in nature, is drawing an incrdinate amount of attention. This preoccupation with administrative-type issues is prevalent at both the federal and state levels. One reason seems to be that concern for administrative issues at the present stage in the development of a CAM program tends to obscure certain unpleasant facts; namely, that administrative answers are easily obtainable while other, more basic policy answers are not. Another reason seems to be that administrative issues have compelling political overtones. If it is possible for the states and the federal government to approach CAM development as a given, and simply a matter of applying good administrative technology, then CAM may not have to jump a great political hurdle. After considerable struggle, the task force began to see that administrative questions such as boundaries were false technical issues because they were not furthering our understanding of what it is that is to be managed or why.

There was a concern by certain members of the task force sympathetic with the objectives of CAM that premature emphasis on administrative issues will render CAM development a political process under the guise of its being technical. While this strategy could work to the advantage of CAM development under certain conditions, it is unlikely that it will. Opponents of CAM development are likely to recognize this ploy for what it is: a political tactic rather than a major planning issue. This could make CAM highly vulnerable in the futures should the tactic fail.

While emphasis on administrative issues will become important at some time

in the future, it seems to be premature at this point until some of the more fundamental aspects of CAM are defined.

ISSUE: NEED FOR SPECIAL CAM

There is a series of implicit assumptions in the federal CAM legislation which suggest that: (1) the coastal area is special and can be distinguished from the inland area by natural features; (2) because of their local orientation, existing land use control mechanisms are inadequate for managing the coastal area; and (3) what is needed is a more technically sophisticated, broader-based management/control system for the coastal area. Throughout the course of this project a number of comments by task force members raised the possibility that the federal proposition may be false, that separately operating programs such as tidal wetlands, flood plain zoning and flood insurance, inland wetlands, etc., eliminated the need for special coastal area management. Furthermore, there was considerable sympathy at the task force level for the view that existing jurisdictions were capable of adapting to new external pressures such as off-shore drilling. In other words, CAM may be a solution in search of a problem. Connecticut may already have all the basic, requisite elements of a CAM program, only operating under a different name.

In a separate sense, neither view may be entirely correct. Existing mechanisms may not be totally adequate, but the ultimate answer may not be to create new specialized functions which will tend to fragment. The answer may be to eventually create a new, generalized, governmental structure which operates on a larger than local scale. The task force found that this scale issue was a repeating theme throughout the project and was implicit in the following boundaries question: "At what point is the land no longer of sufficient ecological value to warrant special CAM-type attention?" Because the task force found this dividing line so difficult to determine, it suggested to them that there might be a fallacy in the special management approach and that the characterization of the whole coastal area as one requiring special management might be false.

We believe that the task force was saying several things. First, all land is special in its own way, and if existing local mechanisms are inadequate to continue managing the coastal area, then they probably are inadequate to manage

the inland area as well. Thus, rather than expending energy trying to revamp just a part of the system (for the coastal area) and leaving the remainder of the system (for the inland area) as is, it would be both more efficient and effective to revamp the entire land use management system. Secondly, we think the task force was saying that it is difficult to accept the "uniqueness" of an area as large as the entire coastal area. The task force felt that while the uniqueness and protection (regulation) of such features as wetlands, steep slopes, flood plains and panorama vistas certainly fell within reasonable bounds, there was a point at which such protection constituted an infringement on the rights of coastal municipalities. From both points of view some doubt was cast on the need for a new special management process over and above what already exists.

IV. MODELS FOR MANAGEMENT

INTRODUCTION

In each of the background studies prepared as a part of this project, various alternative CAM models were developed and reviewed and preliminary recommendations made with respect to their political viability and problem-solving potential. These models were developed with the help of the task force as a way of testing the potential of different arrangements for involving citizens, regional planning agencies, and local municipalities in the Section 306 CAM process. They are not intended to be ultimate solutions to all coastal zone problems but merely a basis for selecting alternatives and identifying key elements which should be considered in a coastal management program.

The task force gradually concluded that a Section 306 CAM program will not by itself be able to relieve the development pressures in the coastal area. Conversely, actions that might provide some relief, such as tax reform, may have nothing to do directly with CAM as defined in the federal act. After extensive struggle with this and related issues, the task force realized that while any one of several administrative models would successfully institutionalize CAM, none would necessarily be successful in reducing development pressure in the coastal area.

Following are 5 representative administrative models considered by the task

force. Our purpose here is simply to describe each model, to suggest how it might be structured, to consider the obvious political, economic and social implications, and to evaluate the ability of the model to achieve CAM objectives (other than the institutionalization of CAM). To simplify the task, we have patterned the models after already existing organizations or functions which are familiar, or where the limits or possibilities are widely known. These models are not simply alternative options to accomplish the same goal. Each model accomplishes a different goal, or through a shift in the power relationship, prevents the accomplishment of certain goals. We have chosen this approach because of the huge diversity of public interest in goal attainment for CAM.

THE REGIONAL ADVISORY MODEL

This model is patterned after the structure and operations of a regional planning agency. In this model, formal citizen involvement on a regular basis comes through voluntary representation from each participating municipality. With respect to the task of management, the primary weakness of the model is that there is no regulatory authority, no taxing authority, nor any direct implementation capacity. Since regional coastal agencies would be dependent on other bodies with authority to carry out their recommendations, the model is not really complete unless those with implementing authority cooperate to carry out the agencies' recommendations. With power presently split between the state and individual municipalities, a regional planning agency-type model probably represents one of the least threatening CAM organizational arrangements possible under the present local political (municipal tax revenue/home rule) structure.

Jurisdictionally, this is really a no-change model. There is no shift in the power distribution between the state and the municipalities, and the process of CAM at the regional level would be only advisory. Thus the potential for political acceptance of this model would be relatively high. This model would achieve the goals of those seeking to minimize change in the distribution of land use control between the state and local communities. But it is doubtful that this model would meet the criteria of a management system established by Section 306 of the Federal CAM Act.

Assuming that the boundary for this model coincides with the municipal

boundary, any new development in the town could be subject to advisory review by a regional coastal agency. Regional coastal agency recommendations would be directed back to the appropriate municipal agency. Depending on the functional criteria for limiting reviews, any activity requiring a building permit theoretically could be subject to review. This model also assumes that there would be no special zoning changes at the municipality level as a result of the coastal area program and that the municipality would continue to exercise its zoning authority. However, the model does assume that any zoning change in the municipality after CAM were instituted would be subject to review the the regional agency. Presently, RPA reviews of proposed zoning changes are limited to those within 500 feet of a town boundary.

Without some safeguards, the ultimate value of this laborious review process would be questionable. One possible benefit might be that greater attention would begin to be paid to the effect of small development on coastal communities. In addition, the process would provide an early warning system for coastal development, a factor of some concern to the task force. It would also provide a formal basis for considering the inter-town impact of proposed actions.

A scaled-down alternative to this approach would be to limit regional reviews to either major development and/or any development within a specified number of yards from the shoreline. The basis for the criteria could be drawn from such things as type of development, acreage covered by the development, requirement for a zone change, number of units, estimated cost, soil, water or sewerage limitations, or proximity to sensitive natural resources. Ideally, these criteria would be more rigorous as the distance from the water's edge decreased.

The possibility always exists that the recommendations of an advisory regional coastal agency would be ignored. Thus inappropriate coastal development could occur. This risk must be weighed against the risk of proposing a stronger model, only to have it fail to achieve popular or legislative support.

With respect to planning and implementation, there is some potential for each under this model, although it is only indirectly related to the regional coastal agency itself. Assuming that operating funds are provided to the coastal agency, it may continue to carry out the kind of front-end planning which dominates most

public planning today. As discussed in prior background documents, we believe that even this type of planning will have major benefits. It will serve a valuable public education function by identifying areas or features of critical concern. It will also provide a continuous vehicle to bring citizens into the CAM process.

There are various existing programs which could provide funds on a matching basis to implement public development and open space projects in the coastal area. Although another party would have to be the implementer, the regional coastal agency could be instrumental in doing the necessary background planning.

It should be emphasized that the ultimate performance value of this model will be low with respect to changes in the pattern of development and development pressure in the coastal area. One possible reason for its adoption is to see it as an incremental stepping stone to a future model which might be more effective in controlling coastal development. But we should note that RPAs were established with similar advisory functions over 15 years ago. They have not evolved beyond an advisory role since then. There are no indications at present that the status of RPAs will change in the near future, meaning that once established, an advisory CAM system might remain in that condition indefinitely.

Conclusions

There are distinct upper limits to the extent to which RPAs or similar type advisory agencies alone can make CAM effective. This is not to say that there is not a role for them in CAM. In fact, there is no reason at all to consider creating a special coastal advisory agency when existing regional planning agencies are capable of functioning in this capacity. But under present statutes, RPAs are very limited in carrying out certain functions which are basic to effective CAM. Consequently, it would be unrealistic to consider RPAs in any exclusive authoritative capacity.

This model is far from ideal. It does not use or develop any radically new technology for the management of land. At the same time, some of these so-called inadequacies in the model could be considered real assets in a conservative political environment in which land use control authority tends to be jealously

guarded. If the choice is between this model and no model, we would certainly choose this one if for no other reason than to maintain some continuity with respect to CAM development following the termination of the Section 305 planning program in 1977.

STATE REASSUMPTION MODEL

As the title of this model suggests, the state would reassume certain powers presently delegated by the state to municipalities. This would represent a major shift in responsibility and power between the state and the municipalities with respect to land use control. Such a model would "relieve" municipalities of planning, zoning and wetland regulatory authority to within whatever coastal area boundary was chosen. It would, in effect, relegate municipalities to an advisory role relative to the state in much the same way that a regional planning agency now operates relative to each municipality.

It would also be necessary under this arrangement to relieve the municipality of the responsibility for raising revenue through the property tax. Otherwise, a municipality could find itself in a very difficult position if it continued to be responsible for the provision of services but could not control its chief revenue source. This is unquestionably the most critical part of this arrangement. The value of this model is that it demonstrates the present plight of municipal government relative to the development of any CAM approach which attempts to relieve coastal development pressure by restrictive regulatory means without major tax reform. The result will simply be more pressure at the municipal government level.

Unfortunately, this is the general direction perceived by PL 92-583. Specifically, Section 302 (h) says that: "The key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states to exercise their full authority over the lands and waters in the coastal zone..." Section 306 (e) (1) (B) stipulates that prior to receiving continuing grant approval to conduct CAM, a state must provide one of three techniques for control of the coast. One of these three choices is, "Direct state land and water use planning and regulation."

Obviously, the balance point here which establishes the basic feasibility of this model is tax reform. Once this is established, then it becomes possible

to examine the specific management components. In all probability though, if such a model ever develops, it would only do so as a result of extenuated frustration at the inability of local mechanisms, such as local planning, zoning, and wetlands agencies, to control coastal area development. By implication, this also suggests that the state would not necessarily be the ideal control center for such decisions, or even a desirable one, but really the only possible one in a limited set of options.

In the opinion of the task force, it is highly unlikely that this model will become feasible in Connecticut. We believe such a model will not find popular political support because of the degree of change (such as tax reform and loss of local authority) it requires and its untested effectiveness. A thorough reassumption by the state of all powers and responsibilities relative to land use decision-making and property taxation would be a major political undertaking. Assuming it was successful, it could take years to accomplish. And there is no guarantee that the new system would be better than the one it replaced. As a matter of fact, in the area of greatest concern in this study, citizen and local official involvement, such a model would most likely tend to frustrate attempts to gain access to a remote decision-making mechanism. The task force believes, and we concur, that more rather than less citizen input is needed to strengthen the system of land use decision-making.

The other problem which such a model would have to face is the "boundary" issue. Would such a system involve only the coastal towns or would the state reassume all land use and property tax powers for the entire state? If the state reassumed such powers only for the coastal towns, what kinds of relationship problems would develop between coastal and non-coastal towns with respect to solving such regional problems such as solid waste, transportation, education, and land use?

Moreover, grave doubts were expressed about the desirability of such a model from an administrative cost point of view. If the state duplicated the administrative process which presently exists in most towns in the state it would require a professional bureaucracy of considerable magnitude. Although no sophisticated estimates have been made as to what that might cost, the scale of such an effort can be roughly estimated. With 9 coastal communities in the Southeastern Connecticut region, each with an average of 5 commissions concerned with some aspect

of the coastal area, with each commission containing an average of 5-7 members, the voluntary contribution of local citizen time is a considerable cost saving that would not necessarily be available to the state.

But there are various powers and responsibilities indirectly related to coastal area management which we believe are amenable to state authority. One way of influencing the development pressures in the coastal area, at least from the vantage point of municipal government, would be for the state to reassume all tax revenue responsibility by eliminating the local property tax and installing an income tax. As an alternative, the state might reassume only that portion of the local tax burden dealing with public education. This could be done most equitably through a state income tax, thus leaving the local property tax in place for the provision of local services other than education.

While the relationship between the coastal area and the financing of local education may appear obscure, we believe there is a substantive relationship worthy of consideration. The key link between the two is the fact that public education constitutes the single largest portion of a municipality's annual budget. Data collected by SCRPA for a report on public education showed that in some towns in Southeastern Connecticut nearly 80% of the municipal budget is spent on education. Rarely is education's share lower than 50%. Furthermore, the percentage devoted to education costs tends to be higher in the less developed towns, precisely those areas which have developable coastal land and are most vulnerable to development pressure.

Conclusion

The assumption of full management responsibility by the state is certainly a theoretical possibility and holds a certain appeal to a number of people who are frustrated with local land use management. But unless such a model has major tax reform as its base, its primary affect will be to further aggravate the property tax pressures on local municipalities and weaken the participation of citizens and local officials in coastal area management. Furthermore, the task force seriously doubted that municipalities will willingly give up the land use control authority previously delegated to them by the state.

INLAND WETLANDS-TYPE MODEL

The model which had the greatest appeal to the task force and the staff is patterned after the present management of inland wetlands. Although the model is far from ideal and would have many of the same weaknesses as the wetlands regulatory process, it represents a significant step forward from the present situation of no special management. This model would maximize the role of the municipalities for on-going management decisions within standards or criteria established by the state. It should also meet federal program criteria set forth in Section 306 (e) (1) (A) of PL 92-583, which should make it acceptable to NOAA for continuing funding support. As was the case with Connecticut's inland wetlands legislation, a provision could be developed whereby municipalities not wishing to undertake the special responsibility of Coastal Area Management would transfer that responsibility to the state.

The role for regional planning agencies would be relatively weak under this model, just as it presently is with respect to local planning, zoning and inland wetlands review. But it is possible that the state could assign the task of "reviewing for consistency" under Section 306 (e) (1) (C) of the federal CAM act to regional planning agencies.

The task force recommended adding to the wetlands-type model for coastal area management a broad appeals/petitioning process for any party, outside or within the municipal boundary, who is aggrieved or potentially aggrieved by any action (or inaction) in a coastal area. One possibility for expanding the involvement of RPAs in this model is to have them function as the vehicle through which an appeal is made. Upon a certified request, a project review could be conducted through an environmental review team and a non-binding recommendation could be made to the appropriate state agency, the municipality, and the aggrieved party. This process will prove especially important if a proposed coastal development in one municipality is considered objectionable by another municipality. Short of a referendum, it will nevertheless provide a means to register both municipal and citizen concerns. After investigation by the RPA and a technical review team, should any party find the results of the review unsatisfactory, then the issue could be appealed to the courts.

The most obvious advantage of this model over some of the others is that it

builds on an existing process. This should minimize the political rejection potential. While the model is far from ideal, especially with respect to the scale of the management process and the inability to effectively intervene or otherwise control decisions from one municipality to the next, it would constitute a really significant step toward Section 306 CAM development and a reasonably sound base on which future arrangements could be built.

Conclusion

In a limited set of options, we would have to agree with the task force that this is definitely one of the better, more practical options for Connecticut to consider for its CAM program at the present time.

REGIONAL COASTAL AUTHORITY MODEL

This model was patterned in part after the Southeastern Connecticut Water Authority. It was developed as an attempt to deal with two administrative problems of CAM which are not otherwise dealt with in models 1 and 3: (a) scale of operation and (b) revenue. The major weakness of the wetlands approach is that economy of scale is traded off for political feasibility and effectiveness. That is, each municipality continues to function as an independent management unit not only duplicating the effort of a number of other parallel management units but also potentially functioning in conflict with them. At the other extreme, the regional advisory model makes major effectiveness tradeoffs for improved scale of operation and political feasibility.

The regional authority model attempts to make scale and effectiveness gains at the risk of political rejection. The essence of the model is the establishment of flexible regional administrative units representative of each of the participating municipalities. The major difference between this and the other models is that this regional body would be able to issue bonds to raise revenue. This power, in conjunction with the state and municipal power to promulgate regulations, could turn the emphasis of CAM to active planning and implementation rather than exclusively regulatory functioning which is the main emphasis of the prior models. This would be an especially important ingredient in eventually providing the basis for the establishment of a system of purchase or transfer of coastal area development rights. The regional authorities would not have regu-

latory powers themselves but might fulfill the appeals function envisioned for RPAs in the wetland-type model.

One additional aspect which would enhance this model would be a functional linkage of the regional authorities throughout the coast of Connecticut. Fixed administrative boundaries, even at a large scale, are natural inhibitors of administrative flexibility. This is especially troublesome when issues approach or cross administrative boundaries. There is little sense in replacing an existing inflexible administrative structure with one which is just as rigid only at a larger scale. Consequently, we would recommend experimenting with a soft boundary, task force-type of approach if this model were implemented. There would be flexible boundaries demarcating divisions between one regional authority and another. Boundaries, i.e., limits of concern, would be determined on an issue by issue basis.

Conclusion

While these authorities could implement positive programs in the coastal area, what is questionable about this approach is how this independent authority would relate to, or conflict with, existing municipal tax prerogatives. As an administrative and functional overlay of already existing units, it might create a whole new set of pressures. With only so much revenue available, the ability to compete with municipal units for investment funds could create an imbalance and further burden an already overstressed system.

Another negative factor concerns the ability of the authority to repay the notes. Clearly the authority will have to have a source of income, and this can only result from use charges on land or facilities which are purchased. The implication of this is that the authority itself will be under some pressure to convert non-income producing land to income-producing uses, or take land which is producing income at a low level and increase its output. While such an arrangement is technically possible, it seems to be simply another form of property tax, leading us to the conclusion that one of the greatest strengths of this model, its bonding power, might also be its greatest weakness.

DO NOTHING MODEL

This model is always a real alternative even though it is rarely, if ever, seriously considered by planners as an acceptable option. In a theoretical sense, the only reason for considering this "model" is that no good options exist which, if taken, could otherwise solve a defined problem. While this is not exactly the case with CAM, there are some possible advantages to be considered here since the fundamental problems of the coastal area are not going to go away and can only get more intense. In time, the nature and intensity of the coastal problems may be more widely recognized, resulting in a broadening of what are now considered to be the limits of political sanction for change. In this context, then, the phrase, "do nothing" has to be qualified with respect to future time. Issues such as beach access, oil spills and OCS development will eventually "catch up" with Connecticut. In all likelihood, in the not too distant future, the people of the state will demand resolute action, just as they did in California following the Santa Barbara oil spills. The problem is simply that the timing might not coincide with the termination of the federal 305 planning program in 1977 as stipulated in Section 305 (h) of PL 92-583.

V. CONCLUSIONS AND POLICY OPTIONS

CONCLUSIONS

It is the basic conclusion of this study that the public is reasonably well aware of specific coastal problems such as oil spills, closed shellfish beds, and overcrowded beaches. But local communities seem to be skeptical of big bureaucratic solutions which simply provide a "vehicle for change" but guarantee nothing in the way of tangible results to these real and pressing problems. Proposed new programs which could undermine or require substantive change in the existing local land use control or property tax base are generally viewed as threats by municipalities. In light of the above, there are a number of problems inherent in the future development of a CAM program.

Our specific conclusions are as follows:

1. Need for a Strong Mandate

   Under existing federal requirements stipulated by PL 92-583, CAM will

remain a dream unless there is a sufficient public mandate allowing the state to exert some kind of control over land use. It is our conclusion that the achievement of state legislation enabling such a mandate for CAM will be the major stumbling block in the development of the program.

2. Lack of a Strong Mandate

The state Section 305 planning program is presently working within the constraints of a very weak public mandate. The mandate for the present program is federal, not the result of a state legislative directive. There is no charge from the Connecticut General Assembly to study the feasibility of developing a CAM program and to present a report for the legislature to act upon. The present mandate for CAM planning exists solely at a bureaucratic level, which we conclude to be a major weakness of the Section 305 program.

3. Local Resistance to State Intervention in Land Use Matters

At present, there is evidence of resistance at the local level to any effort by the state to (re)assume land use control prerogatives. This situation was made clear through our work with a task force of local officials, many of whom were basically sympathetic to the objectives of CAM. Other examples supporting this view are: (1) the cool, sometimes hostile, local reaction to the CAM recommendations of the Long Island Sound Study; (2) the recent (1973 and 1975) rejection of coastal area management legislation by the state legislature; and (3) the dilution of proposed legislation in the 1975 session which could have created a public referendum mechanism within a 25-mile radius of a proposed oil refinery.

4. Lack of Sufficient Time

Each state is at a different stage of coastal area problem recognition. It may take a number of years for Connecticut to come to grips with these issues. Since Congress chose not to mandate CAM, but left the task to the states and simply provided them enough funds to support a 3-year effort, the next 24 months are crucial to the outcome of the development of a Section 306-type of CAM program. Our conclusions, assuming that there are no changes in PL 92-583 extending the Section 305 planning

period, are that this time is probably insufficient to achieve the public mandate necessary to qualify for 306 funds. Unfortunately, the legislation makes no provision for states who fail to achieve this mandate in the given time period.

5. Lack of a "Cause Celebre"

   The adoption of a major public undertaking such as CAM is usually preceded by an external event like the major oil spill of 1968 in Santa Barbara, California. These events seem to be a critical element in focusing public attention on issues and gaining the sanction necessary to act on behalf of the public's (national) interest. Yet they are factors over which the state CAM planning program has absolutely no control.

POLICY OPTIONS

Since the fulfillment of our contract requires that we "recommend policies, programs and procedures by which local governments and regional planning agencies can more effectively be involved in coastal area management processes," and since we are raising some fundamental questions about the future of the program, we see the state CAM program being at a critical policy juncture at this point in time.

Essentially, there are two basic policy options open to the state CAM advisory board as a result of this study.

1. Ignore the conclusions of this study and proceed to play out the role of a Section 305 CAM planning process as if all the elements were going to fall into place at the appropriate time.

2. Test the conclusions of this study in the second year of the program, leaving the third year to make adequate preparations and readjustments in the program based on the findings of the second year.

The following recommendations are based on the selection of Option 2, testing the study's conclusions. It should be noted that these recommendations in no way foreclose options or the possibility of a strong future public mandate for

CAM occurring spontaneously, or independently of the state CAM program. These recommendations simply attempt to deal with the real limits of the federal mandate, the real limits of the state 305 CAM program, and the political, social, and economic realities of the present situation as we see them. We do not believe that a federal grant should be mistaken for a broad public mandate nor should a voluntary task force be mistaken for a political constituency. Should that broad mandate ever materialize in the future in any meaningful way, then the state, through the CAM 305 planning project, will be adequately prepared to meet the challenge. Either way the question is, How do you spend the next two years building support for a mandate for a Section 306 CAM program as productively and effectively as possible within the constraints and limitations described herein? A related question is, At what point would an effort seeking a CAM legislative mandate become fruitful, and what are the indicators leading to such a conclusion?

In answer to the above, we believe that the basis for a mandate will exist when local communities voluntarily begin to seek help from the state for coastal-related problems. Probably one of the best ways to begin to build a local constituency is for the Section 305 CAM program to begin immediately to offer municipalities something useful, technical assistance for coastal-related matters.

1. Short-Range Technical Assistance

If possible the state CAM program should offer the use of their staff personnel on a limited, short-term basis directly to the 23 coastal municipalities to review major development proposals. This model of technical assistance is patterned, in part, after the community services programs which were operated by several RPAs in the state in the past. The strategy here is simply to begin to build a direct relationship of a technical nature between the coastal communities and the Section 305 CAM planning program so that when the 305 grant terminates in 1977, there will be a move initiated by these communities to continue such assistance under the broader aegis of Section 306 management. A subrecommendation is that the state CAM director meet with each of the 23 coastal chief municipal executives to establish a direct relationship, offer the use of the 305 staff, and use the opportunity to generally explain what CAM is all about and what it intends to accomplish in the next 24 months.

2. Long-range Environmental Review Teams

Since the state CAM staff is limited in its ability to provide technical assistance in any quantity over a long period, a different arrangement needs to be considered for the long-term.

If past experience is indicative, we believe that the model of the Environmental Review Team (ERT) established by the Eastern Connecticut Resource Conservation and Development Project is applicable to the problem of technical assistance and has considerable potential for success toward cementing the relationship between the state and the local coastal communities. Experience with an interdisciplinary technical team in Eastern Connecticut has shown that municipalities and developers do voluntarily seek the assistance of the team. More often than not, those who request team assistance tend to listen to its recommendations.

At present, these teams are comprised of combinations of technicians. These include soil conservationists, hydrologists, geologists, engineers, biologists, landscape architects, foresters, sanitarians, and planners whose services are provided by cooperating agencies. Obviously, the emphasis of the teams is on natural systems and not social, economic or political concerns. But the possibility always exists that the teams can be expanded to include an economist, a tax assessor or a sociologist to deal with economic and social issues that are also of concern to towns. Since the work of the team in Eastern Connecticut has been exemplary, plans are presently underway to develop a second team in Northwestern Connecticut. (See Appendix 2 for a discussion of ERTs.)

Two alternatives exist relative to this recommendation for CAM. The first option is to expand the concept of ERTs statewide to make them capable of conducting, (a) reviews throughout the state and (b) reviews with a coastal emphasis. The second alternative concerns the possibility of creating special coastal review teams on a smaller scale to achieve the more geographically and functionally limited objectives of CAM.

As a variation of the above, the possibility exists that an agreement could be reached whereby the RC&D teams would concern themselves only with inland matters leaving coastal reviews for the CAM team. To avoid confusion, a coastal boundary would have to be established, a situation we have attempted to avoid.

Also, a problem will persist as to which team, inland, coastal or both, to call in on certain kinds of reviews. These considerations lead us to favor the creation of more multipurpose teams.

The Environmental Review Team/technical assistance approach also opens the way for intermunicipal and Regional Planning Agency involvement. For example, the coastal RPAs could function in both administrative and technical capacities on these teams. Furthermore, it would be very desirable to establish regional coastal area coordinating committees under the sponsorship of the RPAs. These committees would be generally patterned after the regional task force organized for this pilot study with some important functional differences. The coordinating committee could be responsible for establishing priorities with respect to the coastal reviews conducted by the teams and could review the teams' reports. The major value of such a committee would be that it would begin to formally relate coastal development issues of a technical nature in an inter-municipal fashion.

Our recommendation is for the consideration of at least 3 general purpose ERTs capable of covering the entire Connecticut coast; one responsible for the western end of the Sound, one for the central portion of the Sound, and a third for the eastern end. The experience of the Eastern Connecticut ERT is that the administrative cost for a team coordinator is approximately $25,000 annually. If these teams were to provide assistance on a full-time, paid basis, then the cost would have to be adjusted accordingly. Toward this end, we make 3 specific recommendations. (1) That negotiations begin immediately with the Project Director of the RC&D project to explore ways of expanding the ERTs to accommodate CAM project objectives. (2) That the state director of CAM begin to meet with each of the coastal chief municipal executives and develop support for the concept. (3) That legislation be prepared immediately for submission into the 1976 Session of the General Assembly to provide funds for such an effort.

3. A Detailed Coastal Plan Under Section 305 (b)

Another recommendation concerns the development of a detailed coastal area development plan as part of the federal requirements under Section 305 (b) of the CAM Act.

Probably one of the greatest services the state Section 305 planning program

can provide is to complete a detailed coastal area plan for the State of Connecticut. This plan will perform three extremely important related functions. The first is that it will give worthwhile direction to legislative action. The second reason is that it will provide the much needed justification for that action. In other words, a plan cannot exist without some kind of administrative body to carry it out. Most likely, the character of the plan itself will suggest an appropriate administrative structure to carry it out. At that time, some of the models presented earlier in this report may be of some value. Thirdly, the plan will also have value even if legislative action does not follow. At the very least it can act as a detailed segment of the State Plan of Conservation and Development to be used as a guide for state activities in the coastal area. Furthermore, the plan could also be utilized by the proposed review teams in aiding towns to evaluate development proposals.

We believe that both the State Plan of Conservation and Development and the Long Island Sound study provide a good framework for a detailed coastal development plan. The boundary for this plan should not be complicated, too rigid, or constricting. We recommend simply including the entire land area of a municipality which borders Long Island Sound or any estuary, as we have in Southeastern Connecticut for this pilot study.

At a minimum, the plan should designate, in some detail, areas suitable and unsuitable for development. Variations on this theme are, of course, possible with areas designated for gradients of intensity of development. Available data should be collected on important coastal natural features such as beaches, estuaries, inland and tidal wetlands, steep slopes, agricultural areas, special soils, hydrology and flood plains. These should be assembled for the entire coastal area and provide the basis for the plan designation of development suitability. The plan itself should establish priorities for preservation, conservation, development and all uses of land appropriate for the coastal area, with special attention paid to increased public access to beaches and other recreational areas. We recommend avoiding specific reference to permissable and non-permissable uses. This approach seems to be far too complicated, as the New Jersey coastal zone law attests. Instead, we recommend the environmental performance standard approach which we believe is far more germaine to the issues of CAM.

The production of a special plan of this magnitude could easily be conducted on a region by region basis utilizing appropriate municipal agencies and the regional planning agencies as well as state staff. Ideally, each of the departments presently represented on the state task force would provide staff to work on the plan. We believe this especially important with respect to the Departments of Transportation, Planning and Energy Policy, Environmental Protection, Community Affairs, Health, and Commerce.

4. Property Tax Study

We recommend a more detailed analysis of the role of the local property tax as an operational factor in local land use control and its relationship to development pressure.

Even though tax reform may be a basic management issue, we did not think it appropriate for us to fully detail and propose major changes in the tax structure under the limited objectives of this study. Our point in raising the issue was simply to show that: (a) the present tax system seems to be a key factor in the area of development pressure from a municipality's point of view; (b) any taxation system is itself a super-ordinate management system; and (c) given the above, citizen support for a program such as CAM will tend to be limited by the extent to which a new program such as CAM interferes with, or jeopardizes, a tax system supported by most citizens. While we have tried to make the point that the property tax is not the only source of development pressure (for example, we are certainly limited in our ability to increase the supply of land in the coastal area), it seems to be one of the key areas subject to influence and change by the public sector. Since we have concluded that it is probably not politically feasible, from a local tax point of view, to extend restrictive (tidal marsh-type) legislation to include a continuous coastal land area, then additional knowledge about the role of the property tax is imperative in the development of a truly sound Section 306 CAM program.

The mechanics of the study do not seem to be as important as the conduct of the study itself, although it could provide a vehicle to involve local coastal communities, RPAs, and state staff in CAM development processes. The study could also be conducted by a private consultant for that matter, but we would recommend the former due to the reasons stated above.

5. Contingency Plan

Our final recommendation concerns the need for a contingency plan for Section 305 planning affairs over the next two years. At present, it is our understanding that the Section 305 planning is expected to culminate in legislation in the 3rd year (1977). Passage of such state legislation is, in our minds, the essence of 305 planning. It will provide the necessary mandate for the state to conduct coastal area management. If a proper legislative mandate is not obtained at the end of the 3rd year, what will happen to CAM?

This seems to be an appropriate policy issue for the state CAM advisory board to raise at this time given the conclusions to which this study has come. We believe that because of the 3-year limit on the planning phase there is a major flaw in both the federal CAM legislation and the terms under which NOAA is encouraging the state to proceed to achieve the objectives of Section 305 planning. The flaw, as mentioned above, is obvious. The solution may be more difficult under the terms established by NOAA.

We recommend that a contingency plan be developed which would move to compensate for the timing flaw in the federal act. To test the conclusions of this study, legislation seeking a mandate for CAM should be introduced in the Connecticut General Assembly at the middle of the second year (1976) rather than in the middle of the third year. The content of this legislation could be drawn from a combination of elements from this pilot study and recommendations of the Long Island Sound Study. The format for the bill itself could generally follow CAM legislation introduced in the 1973 and 1975 sessions of the Connecticut legislature or an already adopted bill from one of the surrounding coastal states.

If the legislative attempt is not successful during the second year, it will provide a better basis for critical policy choices regarding program direction in the third year. On this basis, we believe that the state CAM policy board will be in a much stronger position in the third year to evaluate the future of CAM and determine what form, if any, would be acceptable to the legislature and the people of the state. We also believe this will yield far more effective and meaningful results than conducting a survey of citizen attitudes toward CAM issues.

If the legislative effort is unsuccessful in the second year, then the CAM policy board still has two independent options: (1) reintroduce CAM legislation in the third year in a form more likely to be adopted; (2) make provision for the retention of a skeleton CAM staff within DEP following the termination of the Section 305 federal planning grant.

APPENDIX 1

CHOOSING A METHOD FOR ESTABLISHING A LAND BOUNDARY FOR THE COASTAL ZONE

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
139 Boswell Avenue, Norwich, Connecticut

September, 1974

CHOOSING A METHOD FOR ESTABLISHING A LAND BOUNDARY FOR THE COASTAL ZONE

INTRODUCTION

This paper was prepared by the staff of the Southeastern Connecticut Regional Planning Agency (SCRPA) under a special pilot study grant from the Connecticut Department of Environmental Protection (DEP). The overall objective of the pilot study is the development of recommendations by which local government and regional planning agencies can more effectively be involved in the coastal zone management process using that area bordering Long Island Sound and the Thames River estuary in the region known as Southeastern Connecticut as the study area. Hopefully, the recommendations regarding these governmental relationships will be applicable in other areas of the state.

In this paper the SCRPA staff has identified a broad range of issues related to coastal zone management. Although by legislative mandate it is the responsibility of the state (DEP) to define the coastal zone, we have chosen the problem of boundary definition as the vehicle to identify these issues as it is clear that how the zone is defined will, to a very large extent, determine the kind of management activities undertaken. Consequently, we have attempted to develop a broad conceptual framework regarding coastal zone management principles against which we have analyzed and tested the implications of several methods for defining the coastal zone. It is also intended that the principles set forth in this paper will not only be helpful in distinguishing between more and less desirable methods in defining a coastal zone but that they will be useful in a broader management context as well.

This paper addresses itself exclusively to the issue of land use and land boundaries. Although we recognize that water uses and their related boundaries are equally as important in the development of a coastal zone management program, the decision was made to limit the scope of this paper and consider water use as a separate issue during the course of the pilot study. It will be tentatively assumed that the off-shore boundary of the state will function as the aquatic coastal zone boundary. Should the consideration of water use prove to vary significantly from the criteria set forth in this paper, such a question may constitute the basis for another paper.

Since the primary purpose of creating boundaries is for separation and distinction of activities or elements, it is essential that those elements or activities be identified and the reasons for their separation be stipulated. Clearly, in the case of a

coastal zone boundary, it is the sensitive, vulnerable natural areas and the processes peculiar to the coastal region that are the elements of concern that need to be set off by coastal boundaries. This aspect of boundary setting is what we have identified as the functional and it is a term to which we will be referring throughout the course of this paper.

In addition to the functional aspects of boundary setting, there are procedures which are necessary to maintain the separation of the elements or activities of concern. This aspect of boundary setting is what we have identified as the administrative and it includes such factors as the ease of establishing a coastal boundary, the clarity of the boundary location and the degree of disruption to successfully functioning governmental agencies.

A third element in boundary setting which is related to both the functional and the administrative is the provision of buffer space. The process of defining the appropriate amount of buffer space will not only help determine the boundary location but will most likely generate the greatest amount of discussion and concern due to the development implications for the coastal zone.

The administrative machinery, or single agent, responsible for the management of the coastal zone will be discussed in a later paper, but clearly the statutory control and the jurisdictional authority of the administrative agent(s) are important considerations.

A multitude of different coastal zone boundaries can be drawn depending on the kind of administrative and functional balance established. What follows is the description and analysis of five coastal zone boundary-setting models which are considered to constitute the most likely range of options to be considered as methods for defining a coastal zone.

OPTION #1: FIXED LINEAR DISTANCE MODEL

One method to be considered for defining the coastal zone is what we have chosen to call the fixed linear distance method. To our knowledge, such a method has already been tentatively recommended by the Long Island Sound Study Committee* and has been widely mentioned in other literature on the subject as well.

The method by which such a model derives its title is simply that some arbitrary fixed dimension is chosen inward from the shoreline. For example, the Long Island Sound Study recently recommended

* See A Plan to Protect Long Island Sound, A Summary of The Main Report, p. 36, Long Island Sound Study, July, 1974.

a distance of 500' inland from the high water mark along the Sound to constitute the special coastal zone. In its pure form, this model has no one best distance. Consequently, the resulting distance is arbitrary and can be as little as 10 feet or less, or as much as a mile or more.

Despite its popularity and apparent simplicity, the reasons for considering this method more desirable than some other model are virtually nonexistent. In the opinion of the authors, there is no model more lacking in substantive administrative and functional considerations and fraught with potential difficulties than this one. Consequently, it will be easier to analyze this model in terms of its more obvious negative features.

In general terms, Model #1 fails to serve any of the basic administrative or functional criteria discussed in the Introduction. More specifically, the fixed linear distance boundary is:

1. Difficult to relate to a fixed point from which to measure.

2. Difficult to measure.

3. Constantly subject to change due to shoreline erosion and deposition.

4. Lacking visible, physical identity.

But more importantly, there is no outstanding functional criteria on which such a model can effectively be based. That is, assuming broadly that the executors of such a model wish to protect certain natural or historic features related to the coast, a fixed distance of 500', for example, might very well include all the important features in one area yet exclude significant ones in others. In order to compensate for this fundamental inadequacy, the fixed distance zone would have to be expanded where necessary to include natural, historic, or other coastal-related features.

Consequently, we would recommend at this time that primary consideration not be given to this model and that other models which more adequately meet the general objectives presented in the Introduction be explored.

OPTION #2: THE AESTHETIC DISTANCE MODEL

A slight but significant variation of Model #1 is what we have chosen to call the aesthetic distance model. The essence of this model is that the coastal area can be defined by existing aesthetic characteristics. The most recent proponents of this method are the towns bordering the Connecticut River who have joined to create

what is known as the Connecticut River Gateway project.* As adopted by the Gateway project, this "aesthetic distance" is determined (measured) visually from an offshore craft.

On the surface, such a model holds a certain appeal. Yet when scrutinized more closely, we believe it contains some significant administrative as well as some functional deficiencies. Of all the possible functional reasons for creating a coastal zone, the authors believe that asesthetics is probably the weakest. That is, by what criteria can aesthetics be established or determined? Furthermore, who develops these criteria is virtually an open-ended issue and not necessarily conducive to amicable resolution.

This, then, points the way to an additional set of concerns. That is, visual measuring is an extremely fallible method of determining a coastal zone. The actual measuring of such a distance inward from the coast would be an extremely difficult task. In addition, it is highly likely that due to the limits of visual measurement, such a technique would most likely exclude important natural features which may be hidden from the eye either from the point of measurement or at the time of measurement. Furthermore, as in Model #1, assuming that such a boundary could be created, the actual physical recognition of that boundary for administrative purposes could pose serious difficulties.

Finally, we suggest that even though aesthetics are an important aspect of the coastal area, by themselves, aesthetic considerations provide neither a sound functional or administrative base upon which to build a coastal zone management system.

OPTION #3: LAND TRANSPORTATION CORRIDOR MODEL

As Models #1 and #2 demonstrated, one of the greatest potential administrative hazards in the process of boundary setting is to create an abstract boundary in which the delineation between two or more areas is vague and difficult to measure. On the basis of this primary administrative consideration, Model #3 was considered to possess some useful elements.

Model #3 utilizes the major existing land transportation corridors such as roadways and railways as the fixed boundaries defining the coastal area. At the present time, the State of New Jersey appears to be one of the forerunners in utilizing this model for defining the coastal area.**

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* See Connecticut Department of Environmental Protection, Citizens' Bulletin, p. 4, June-July, 1974.

** See Provisions of New Jersey's Coastal Area Facility Review Act of 1973 to be administered by the Bureau of Marine Lands Management in the New Jersey Department of Environmental Protection.

In its pure form, Model #3, like Models #1 and #2, can also be considered lacking in the basic functional considerations related to the purposes for creating a coastal zone. Its positive features lie mainly in certain selected administrative characteristics. In most cases, road construction, where it exists near or along the coast, will be related to the coastal configuration. With this in mind, the administrative advantages of utilizing an existing land transportation corridor as a boundary are obvious. Specifically:

1. In most cases, the location of land transportation corridors is fixed and incontestable.

2. They exist in deeds and on maps and are visible on the ground.

Related to the issue of functional considerations, the major weakness that we can identify at this time concerns a certain degree of inflexibility that such a model provides. For example, assuming the desire to designate certain coastal features for separation, it may be that:

1. No transportation corridor exists near the special feature.

2. The nearest corridor which does exist either excludes the feature or will necessitate the inclusion of land in the management program which otherwise might have been excluded from consideration.

Nevertheless we can recommend the consideration of utilizing land transportation corridors as one of the most feasible ways of satisfying certain administrative criteria related to boundary setting. At the same time we would caution against the adoption of such a model exclusively, without some consideration of the functional aspects and basic purposes for creating a coastal zone.

OPTION #4: NATURAL FEATURES MODEL

Model #4 was developed primarily as a way of satisfying the functional inadequacies identified in the earlier models. In the opinion of the authors, consideration of natural features is the procedure which best illustrates the intent of the federal legislation.

In Model #4, the boundary of the coastal zone is determined primarily on the basis of the existence and location of significant natural features related to the coastline. These natural features include tidal wetlands, floodplains, beaches, sand dunes, bluffs,

small islands, steep slopes, significant scenic views or vistas, and areas designated or presently utilized for open space and recreation. They may also include historic features or any other features specifically related to the coastline not mentioned in this paper.

Functionally, Model #4 almost completely satisfies the need to protect those natural features from decimation by further, indiscriminate development. It also suggests the potential for the creation of guidelines to aid in development procedures which will enhance natural features. The judicious creation of specific boundaries around these natural features will also tend to promote primary consideration of the coastal natural resources in all future land use management decisions.

Some of the reasons which make such a method less desirable include the need to have comprehensive information on natural resources significantly prior to the initiation of management procedures. In addition, the model does not provide for a precise way of identifying an actual boundary around a natural feature. Related to the administrative problems of vague boundaries, one can point to the difficulties presently experienced by the various municipal inland wetlands commissions who are attempting to develop administrative procedures based on the functional aspects of this model. Additional thought, as presented in the Introduction, must also be given to the issue of the appropriate amount of buffer space between the particular natural feature and the boundary line.

An additional problem associated with this model concerns the lack of available criteria with which to guide a decision as to which natural features are to be included for management consideration and which excluded. Without such criteria, the functional aspects of the model, in ecological terms, could be carried to a logical, yet administratively absurd, extreme and might include land several hundred miles inland from the coast. An example of this situation is the Quinebaug River. The Quinebaug originates in Massachusetts and winds its way through eastern Connecticut until it meets with the Shetucket River at Norwich and then empties into the Thames. Since the Thames empties into the Sound, utilization of, or discharges into the river at almost any point will affect water quality in the Sound. The point of this example is simply to demonstrate the basic interrelationship between the functional and administrative aspects of any model, and to suggest that a management system which covers a vast area would hardly be conducive to effective management.

Finally, with respect to Model #4, we strongly suggest that coastal natural features constitute a sound and reasonable functional basis upon which to develop special boundaries for coastal management; yet in and of themselves, natural features do not provide a precise boundary framework upon which to build sound administrative procedures. Thus, it is probably necessary to consider the potential for the amalgamation of one or more of the single

aspect-models in order to satisfy the range of administrative and functional requirements.

OPTION #5: POLITICAL BOUNDARIES MODEL

In the opinion of the authors, one of the most feasible and likely methods for determination of coastal zone boundaries will be the utilization of the existing political boundaries and the planning, regulatory and tax authority of those municipalities which border the coastal region. In Southeastern Connecticut, there are nine municipalities which border the Long Island Sound and the Thames River estuary.

The reasons which make such a model more desirable are considerably more administrative than functional. Nevertheless, they include such considerations as ease of immediate and continuing boundary definition once the program becomes operational. Also of importance, in the pilot study area as well as in the remainder of the state, is the strong emphasis placed upon municipal government in Connecticut. That is, municipal government is, in most cases, the most basic level of government with taxing powers and regulatory authority over land use.* This means that the development of a coastal zone management system for the state can be built upon some combination of existing governmental units with the proper and appropriate authority to execute the provisions of the management program.** Conversely, it means that it will not be necessary to create new, special units, or sub-units with authority which might overlap or conflict with existing municipal jurisdiction.

The most profound reason for judging such a model less desirable includes the general consideration of inflexibility. That is, creating special rules and regulations for those entire towns which border the Sound and/or the tidal estuaries will undoubtedly necessitate the inclusion of large amounts of land which even if

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* An exception to this rule are the special purpose districts where they exist.

** One of the major issues in the development of a special coastal zone management program as perceived by the Federal Government is the presumed ineffectiveness of local jurisdiction over coastal development. It is neither our purpose nor desire here to suggest or draw conclusions either way on this issue. Our recognition of municipal boundaries is not intended to mean that we necessarily endorse isolated decision-making by autonomous municipalities as the best way of achieving the goal of effective coastal zone management. We have left that question open through our use of the phrase "some combination of existing governmental units."

developed for high intensity purposes may not impose any adverse effects on the coastline or adjacent coastal waters. In other words, such a model risks carrying the concept of buffer space to the detriment of economic development on the exclusive justification of some impressive, but limited, administrative characteristics.

Consequently, we would recommend consideration of this model only insofar as it provides a basic administrative building block for another model, or combination of models, which enables a balancing of development interests with preservation concerns.

OPTION #6: THE DUAL-ZONE MODEL

As mentioned at the end of Model #4, it may be necessary to consider the amalgamation of two or more of the single-aspect models. In the preceding investigation of various types of approaches to defining the boundary of a coastal zone, none of the models analyzed exclusively satisfies what we consider to be the minimum administrative and functional criteria necessary to establish and maintain an effective coastal zone management system.

What appears to be missing in all of them is the degree of flexibility which both guides and enables the management process to anticipate, rather than react to, necessary adjustments to scale and intensity of development. This inflexibility, we believe, is directly related to the concept of a single coastal zone with a fixed amount of buffer space.

One example to illustrate the inherent inadequacies of a rigid coastal zone boundary is the real potential for the creation of an oil refinery in one of the coastal towns in Southeastern Connecticut.* Although this development might not be in immediate (visual) proximity to the coast, or fall within the prescribed boundary, it would undoubtedly have a major impact on the coastal area. This type of project demonstrates the necessity for a flexible boundary system which provides protective devices for the coast against such large scale development as an oil refinery located at some distance beyond the coastal zone boundary.

Our recommended approach is for a dual-zone boundary system which will allow for optimum flexibility when and as management objectives become better defined, or if they change or need to be changed in the future.

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* At the time of the writing of this report, the Town of Montville is being considered by the In-O-Ven Corporation as the most likely place in which to locate an oil refinery in Southeastern Connecticut.

Natural features, which are broadly delineated by land transportation corridors and which are managed in an overall framework of municipal government, form the basis for the dual-zone model. The consideration of a dual-zone approach rather than a single-zone approach is based upon the goal to develop a coastal zone management system which is capable of adapting to various kinds and intensities of development within different proximities to the coast.

The major purpose for creating dual zones, and the attendant administrative and functional distinctions between these zones, is that while the focus of the management program is primarily on the more critical coastal area, management of the area designated less critical can nevertheless occur (as in the oil refinery example). In approaching the boundary designation from this basis, the alternatives to the dual-zone approach fall along a continuum which sees a changing relationship between an area designated as "most critical" and an area designated "less critical." Thus, the dual-zone approach provides a kind of fail-safe device for management purposes and allows the jurisdictional agent to recognize and anticipate various intensities of development. The following maps and text illustrate several alternative boundary approaches.

Map #1 represents a large single zone approach where the entire land area within the municipal boundary is considered to constitute the coastal zone. No functional distinction is made between a more and less critical area. Consequently, special management procedures will be required for all development within the entire municipal boundary without regard for scale, intensity, or proximity to the coast.

Map #2 represents the other extreme where the critically defined area near the coast is minimized while the less critical area away from the coast is maximized. As a dual-zone approach, intensive management can occur in the minimum critical zone near the coast while special coastal-related management can occur in the area designated as less critical when necessary.

Maps #3 and #4 represent alternatives where increasing amounts of land acting as buffer space are provided within the boundary surrounding the most critical natural features. It is the tentative opinion of the authors that as a dual-zone approach an optimum balance between intensive and extensive management in the more and less critical areas, respectively, is best achieved for Southeastern Connecticut in Map #3. In that alternative, adequate buffer space is provided to protect the fragile and irreplaceable coastal natural resources. In addition, the area designated as more critical is not so large as to compound administrative difficulties by including more land than can possibly be managed intensively. At the present time, we see all future development in the more critical area coming under the scrutiny of a special management team while only such large scale developments as shopping centers, subdivisions, or heavy industry coming under management concern in the less critical area.

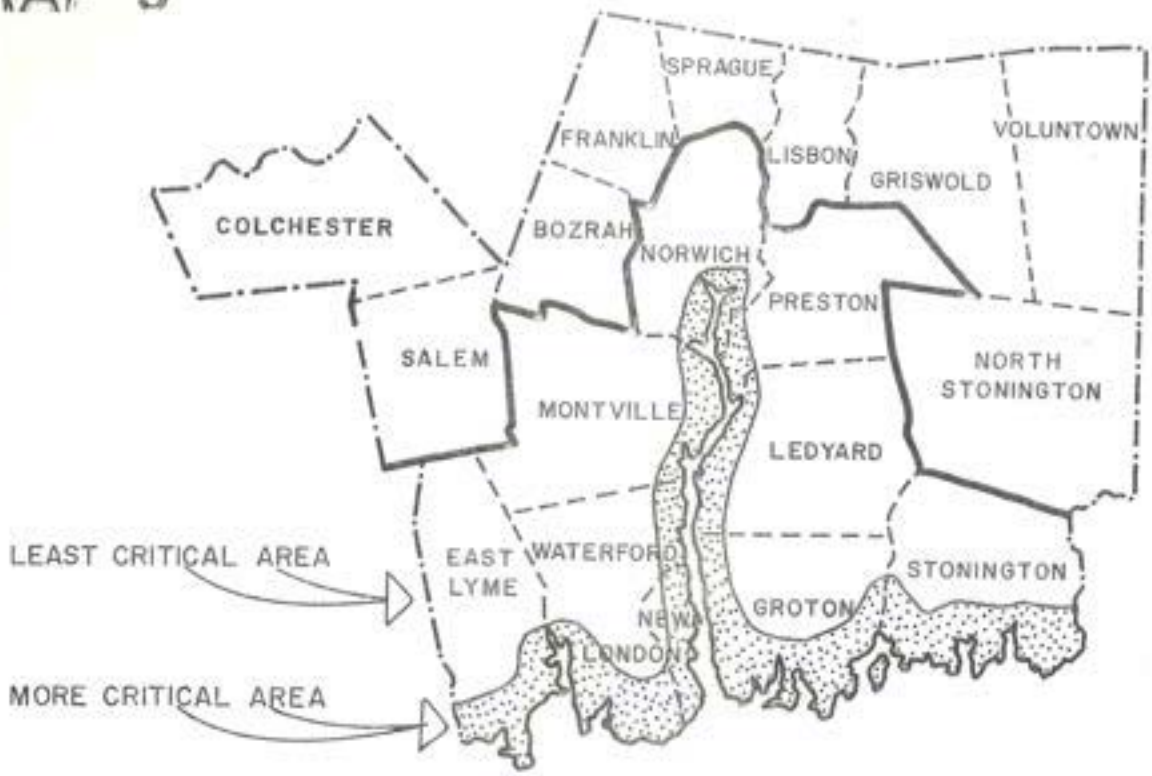
MAP 1

SPRAGUE
FRANKLIN
LISBON
VOLUNTOWN
GRISWOLD
COLCHESTER
BOZRAH
NORWICH
PRESTON
SALEM
NORTH STONINGTON
MONTVILLE
LEDYARD
EAST LYME
WATERFORD
STONINGTON
CRITICAL AREA
NEW LONDON
GROTON

MAP 2

SPRAGUE
FRANKLIN
LISBON
VOLUNTOWN
GRISWOLD
COLCHESTER
BOZRAH
NORWICH
PRESTON
SALEM
NORTH STONINGTON
MONTVILLE
LEDYARD
LEAST CRITICAL AREA
EAST LYME
WATERFORD
STONINGTON
NEW LONDON
GROTON
MORE CRITICAL AREA

MAP 3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MONTVILLE
LEDYARD
LEAST CRITICAL AREA
EAST LYME
WATERFORD
STONINGTON
NEW LONDON
GROTON
MORE CRITICAL AREA

MAP 4

SPRAGUE
FRANKLIN
LISBON
VOLUNTOWN
GRISWOLD
COLCHESTER
BOZRAH
NORWICH
PRESTON
SALEM
NORTH STONINGTON
MONTVILLE
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LEAST CRITICAL AREA
EAST LYME
WATERFORD
STONINGTON
NEW LONDON
GROTON
MORE CRITICAL AREA

CONCLUSION

This paper has attempted to identify a broad range of methods for establishing a land boundary for a coastal zone and to analyze certain aspects of those methods. Directly implied in this process is the underlying reason for creating such boundaries in the first place, which is to provide for the management of certain kinds of development which will potentially take place in that area and to minimize their adverse impact on the coastal environment.

What this paper has not attempted to do is to specify precisely what it is that is to be managed, or how. We have also not attempted to deal with the issue of a water boundary or water use management.

In identifying the limits of this paper, it is apparent that the next step in the development of an effective coastal zone management program is to deal with the specific objectives of management on the broad context of existing land and water use control.

Consequently, it is our intent to follow this paper on land boundaries with another paper dealing with the range of management issues affecting the coastal zone. At that point, we will be in a better position to identify specific management objectives and to expand the management considerations of our preferred dual-zone boundary model as presented in this paper.

ECOLOGICAL CONSIDERATIONS FOR MANAGEMENT OF THE CONNECTICUT COASTAL ZONE

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
139 Boswell Avenue, Norwich, Connecticut 06360

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ECOLOGICAL CONSIDERATIONS FOR MANAGEMENT OF THE CONNECTICUT COASTAL ZONE

PREFACE

This paper was prepared by the staff of the Southeastern Connecticut Regional Planning Agency (SCRPA) under a special pilot study grant from the Connecticut Department of Environmental Protection (DEP). The overall objective of the pilot study is the development of recommendations by which local government and regional planning agencies can more effectively be involved in the coastal zone management process using that area bordering Long Island Sound and the Thames River Estuary in the region known as Southeastern Connecticut as the study area. Hopefully, the recommendations regarding these governmental relationships will be applicable in other areas of the state.

The first paper published under this pilot study addressed itself to the issue of choosing a method for establishing a land boundary for the coastal zone. In addition to the analysis of various boundary-determining methods, the paper provided a vehicle for identifying a number of central issues related to the creation of a special coastal zone management system.

The purpose of this second paper published under the pilot study is to define what constitutes the resource base by compiling descriptive data on natural features in the Southeastern Connecticut coastal zone, and to analyze the human impacts, as well as the natural stresses, which are placed upon them.

INTRODUCTION

As a result of glaciation and subsequent submergence, the Connecticut coastline can be described as irregular with numerous coves, points, necks, and harbors. Small islands, sand spits, and offshore bars parallel the shore, and serve as semi-protective barriers for the sandy beaches, dunes, coastal floodplains, and the unique community of the tidal marsh.

Long Island Sound provides the overall marine context for the State of

Connecticut, as well as the Southeastern Connecticut Region. As will be demonstrated in the following pages, the coastal area is a highly integrated aquatic system-ecologically speaking. In order to maintain any future coastal integrity, however, it will be necessary to establish a statewide coastal resource management program with policies as orderly and integrated as the natural systems themselves.

The traditional place for economic growth, natural harbors on the Connecticut shore became centers for population, navigation, and industry. Water was the important medium which brought people and goods to the growing cities, and carried human and industrial wastes away. In Southeastern Connecticut, the Thames River estuary is that natural harbor and port, and is also the center for all major economic activity in the Region.

Today the Southeastern Connecticut coastal area supports a population of approximately 200,000 persons. The irregular, glaciated coastline and river shores are highly regarded for their natural and scenic beauty, but the overload of pollutants and runoff from terrestrial sources is contributing to the degradation of the coastal waters. *The maintenance of a quality coastal area as still exists in Connecticut requires the establishment of a coastal resource management program.* Population growth - with its demands for electrical power, housing, employment, consumer services, and recreational needs - generates increasing amounts of pollution into coastal waters, hastening the onslaught of coastal ecosystem degradation.

It is the purpose of this paper to use the Southeastern Connecticut coastal area as a model for the identification of the coastal natural resources that constitute a coastal zone. A summary of these components of the coastal zone and their recognized ecologic criteria - functions, sensitivities, and natural associations - as well as the identification of the human and natural impacts and stresses placed upon them should begin to illustrate the real need for an organized state and local program to halt the present indiscriminate expenditure of non-renewable resources, and to manage and protect this critical marine ecosystem loosely identified as the coastal zone.

CONSIDERATION OF NATURAL FEATURES IN THE COASTAL ZONE ECOSYSTEM

Estuaries

Fresh water rivers and streams eventually drain into the oceans. For some distance there is a region of transition. The river enters the saline (salty) waters of the ocean, creating a gradient of salinity. This gradient provides a habitat for organisms uniquely adapted to exist in the region of salt water and fresh water mixing. This place where the fresh water joins the salt water, is called an estuary. An estuary is a semi-enclosed coastal body of water which has a free connection with the open sea and within which sea water is measurably diluted with fresh water derived from land drainage.(1)

Tidal influence is noticeably greater at the seaward opening of the estuary, and hence, there is a better mixing of the heavier, and more dense salt water with less dense, terrestrially-supplied fresh water which has largely traveled downstream in the estuary as surface water. The term "stratified estuary" applies to that portion of the estuary not exemplifying strong tidal influence. A "mixed estuary" applies to the more seaward portion of the estuary where tidal influence is strong.(2) Although vertical mixing of salt and fresh water occurs in upstream sections of the estuary, it is more frequent at the seaward opening.

> Estuarine circulation takes place in the stratified area. Due to density differences, salt water movement in the lower water layer has a net transport upstream. It mixes in a vertical direction and carries part of the salt water upward into the upper water layers, where it is carried seaward with the fresh water.(2)

The local geology influences the size, shape, and volume of water flow of an estuary. Rivers draining into the ocean bring quantities of sediment which are deposited in the quiet, semi-protected waters of the estuary. As pointed out by Guilcher(3), in an estuary, "a motionless lens of water persists near the bottom during a large part of the tidal period. The position and duration of this motionless water body varies with estuaries, and in the same estuary, with the river discharge and tidal range. The lens acts as a weir in which the coarse particles flowing along the bottom are trapped," and the finer, suspended sediments in upper water layers pass over this lens region. The location of the "lens" will dictate

(1) All references appearing in this parenthetical notation appear under Literature Cited.

where on the estuary bottom the fluvial sediments will settle. These sediments may even accumulate to form tidal flats or bars in the estuary.

While much sediment is transported by fresh water rivers and streams, waves perform a constant erosion of the coastline, and the local currents carry these and other marine sediments into the estuary. "Penetration of marine sediments into estuaries can be due to the wedge of (heavier and more dense) salt water flowing upstream along the bottom".(Guilcher, 1967).(3) As in the case of Long Island Sound estuary, and the Thames, Mystic, and Pawcatuck River estuaries, the marine sediments carried upstream are largely glacial in origin.(4) Water movement within the salt water wedge may be very slow as the wedge may be filled with marine sediments, and these materials may also rest, and accumulate to form tidal flats or bars.(2)

In Southeastern Connecticut, there is a range of fresh and salt water mixing areas which fit the general estuary definition given earlier. Long Island Sound is itself an estuary(s), and into it feed numerous smaller estuaries, the deepest, and best known is the Thames River, and some of the more shallow and quiet estuarine systems are the Pataguanset, Niantic, Poquonnock, Mystic, and Pawcatuck Rivers, as well as the brook-fed Jordan, Goshen, Alewife, Baker, Mumford, Palmer, Quiambog, Quanaduck, and Wequetequock Coves. According to Postma who described a similar range of coastal systems, "these areas differ geomorphologically, but have the common feature that suspended matter is carried back and forth, deposited, and eroded many times before it finally settles, either permanently or for a long period".(2) As all of Connecticut borders on the Long Island Sound estuary, the necessity for a consistent, statewide coastal resource management program should be apparent.

The estuary is a complex system of currents, salinity changes, and as mentioned earlier in the case of deeper estuaries, has a two-layered transport system where, by vertical mixing, the incoming saline water combines with the fresh water river flow or that from terrestrial (run-off) sources. The volume of fresh water flow into the estuary varies seasonally. During the spring the fresh water input is greatest, and, conversely, salinity in the estuary is the lowest.

Terrestrial run-off is not always a pollutant. Certain needed nutrients are derived in this manner. Riley(5) indicates that fresh water usually enriches the

estuary, and that nutrients thus derived can be of an organic or inorganic nature. "Vishiac and Riley (1961) found a distribution of thiamine in Long Island Sound which indicated that it was largely derived from [land] drainage."

Hedgpeth(6) adds, "the estuarine ecosystem is a mixing region between sea and inland water of such shape and depth that the net resident time of suspended materials exceeds the flushing. Thus the system constitutes, as Ketchum has pointed out, a nutrient trap."

Saline water entering the estuary as a salt wedge described earlier, too, carries with it nutrients valuable and necessary to support estuarine life.

> If the water is sufficiently deep to develop a negative gradient in nutrients so that a nutrient-poor surface layer drains off and is replaced by inflowing bottom water that is comparatively rich, the exchange pattern will enrich the estuary. Harris (1959) analyzed the exchange pattern in Long Island Sound with reference to nitrogenous nutrients, which were the most important limiting factors in that area, and concluded that enrichment from the two-layered transport system was approximately equal to that supplied by fresh water drainage.(5)

Water movement, or estuarine circulation, results from the interaction of the tides, the wind, and the constant one-direction river and brook flow. Consequently, estuarine organisms must make nearly constant adjustments for changing salinities and nutrient levels, or in the words of Riley, [the estuary is] "a system which fosters selection by biological competition of those species which are able to maintain the most effective growth rate under the prevailing conditions."(5)

Including anadromous fishes, which, though marine, travel up the estuaries to spawn in fresh water, the estuarine organisms are primarily marine, and can withstand full seawater conditions.(7) In addition, most estuarine organisms are benthic, or bottom-dwelling, and can be found buried in the mud. It should be noted that "in the estuarine region, the river loses much of its contact with the river bed. This does not mean that no river water reaches the bottom, for part of it is mixed downward" [in the vertical mixing process described earlier].(2) But in many areas of the estuary, the salt wedge dominates the bottom zone, and consequently the bottom species are adapted to a fairly saline, but constantly changing

environment, due to vertical mixing.

Some estuarine inhabitants cannot tolerate a lowered salinity, and these species decline along the salinity gradient. The sessile (stationary) and many of the less motile benthic organisms have an optimum salinity range for survival. When salinities vary on either side of this range, the populations decline. Some estuarine species such as clams, and snails, have impermeable coverings which allow them to close up for temporary intervals during periods of low salinity or other unfavorable conditions, and function on specialized materials stored within the body.

Sudden influxes of fresh water, as from storms, or industrial uses, can affect the salinity or water quality of a given area and bring about a high mortality of inhabiting larval and other high-salt-tolerant marine forms. Certain anadromous and semi-anadromous fish such as shad, and striped bass, respectively, spawn in or near the fresh water interface, respectively, but the young in both cases move further downstream to more saline waters as they mature.(7) The estuary serves as both a nursery and a feeding ground for young fishes. Other species, such as bluefish, move seasonally into the estuary to feed.

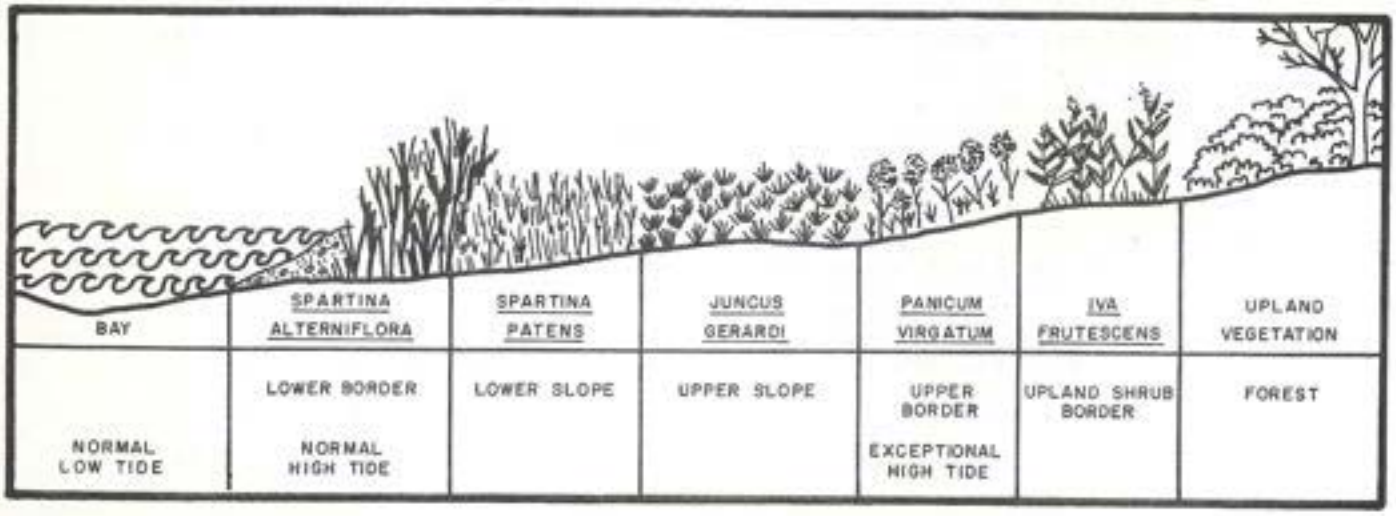
Tidal Marshes

A prominent and familiar feature of the estuarine system is the tidal, or salt marsh. Located on the alluvial plains around the estuary, or in the shelter of sand spits and offshore bars, the tidal marsh, with its unique community of salt-tolerant plants, sustains periodic floodings by the sea. Tidal marsh plants often appear as distinctive bands of vegetation in response to a complex of environmental factors including salinity. The tides also play a most significant role in this plant segregation as twice a day the salt marsh plants on the outermost portions of the marsh are submerged in salt water and then exposed to the sun. Even within the vegetation bands there is a sub-pattern or mixture of the different salt marsh plant species. This sub-pattern is described as a plant mosaic. Since the plants are rooted in poorly drained, poorly aerated soil containing varying degrees of salt, only plant species with a relatively wide range of salt-tolerance can withstand these severe conditions. Thus from the sea to the marsh edge to the upland areas, tidal marsh vegetation influenced by water depth and salinity is established and continually nourished by nutrients in the incoming tides. Prominent

in many salt marshes are depressions known as salt pannes. As salt water evaporates in these low areas, a thick deposit of salt remains. These very high salinity areas often support many colorful flowering herbs such as sea lavender (Limonium carolinianum), gerardia (Gerardia maritima), and aster (Aster tenuifolius). (8) Stunted forms of the cord grasses to be discussed below often grow around these pannes.

Most tidal marshes begin as mud or sand flats colonized first by algae, and with eelgrass in deeper water. With the accumulation of sediments and organic debris supplied by the rich, estuarine system, the first salt marsh plants are able to establish themselves. In the Connecticut marshes, the first colonist-plant is commonly a salt water cord grass, Spartina alterniflora, a tall, leafy plant, submerged with every high tide, and forming a recognizable strip between the open water and the balance of the salt marsh.(9) This cord grass is commonly found growing along the familiar "mosquito ditches" which have been cut into marsh-lands. At slightly higher elevations where tidal waters are relatively shallow, and soil salinity even greater, grows a short, marsh hay cord grass, Spartina patens. This fine-bladed and densely packed grass forms the familiar expansive green meadows of marshes. The third dominant salt marsh species is a marsh rush, Juncas gerardi, or black grass, so-called due to its very dark green color which affords sharp contrast to the other two dominant salt marsh grasses described. Beyond the black grass a belt of switchgrass, Panicum virgatum, grows at the upper

GENERALIZED VEGETATIONAL SEQUENCE IN THE TIDAL MARSH



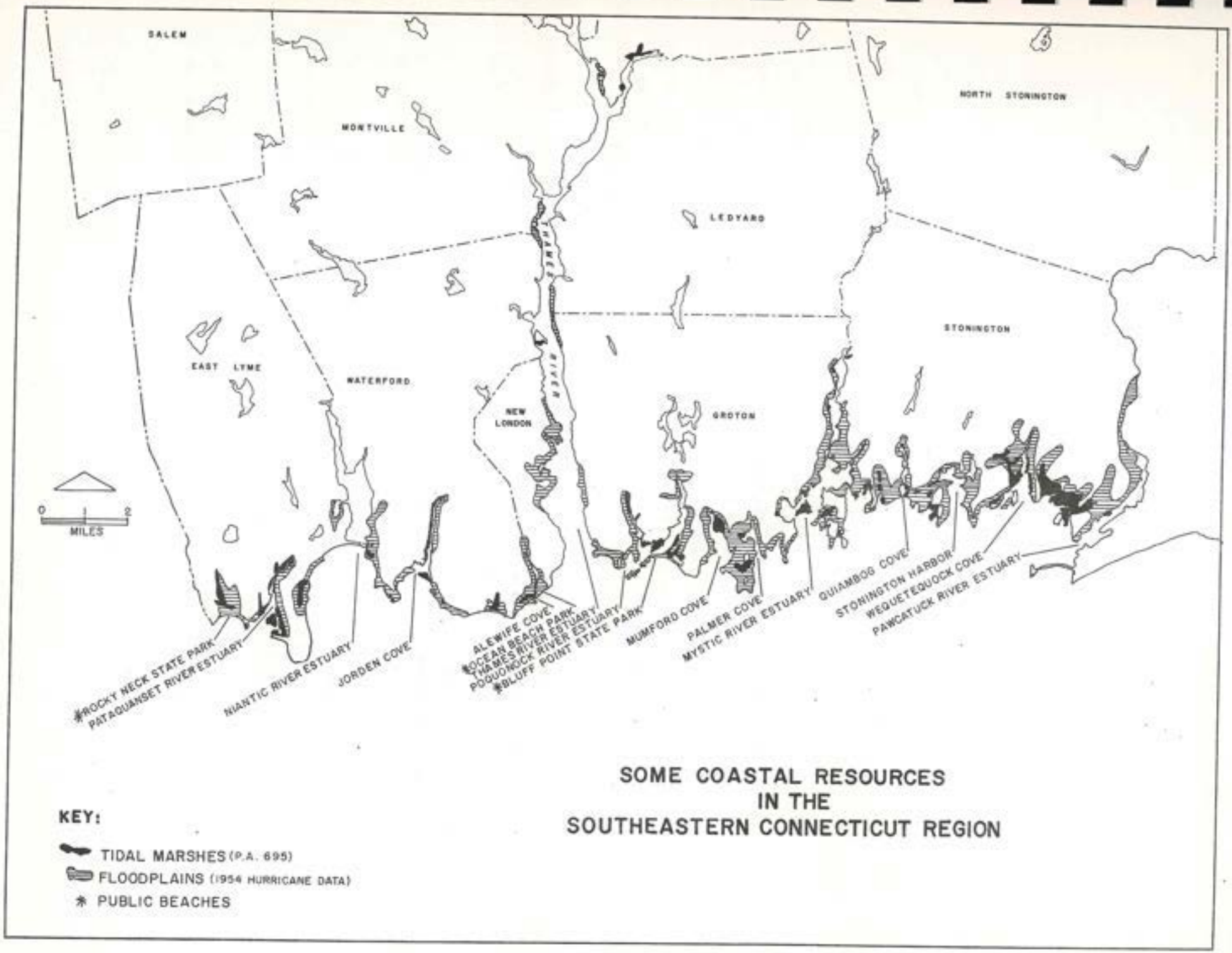
Tidal marsh cross-section showing bay-to-upland sequence of the major vegetational zones [after Miller and Egler (9)].

border of the tidal marsh. Covered only by exceptionally high tides, switchgrass is an abundant and important food source for many birds frequenting the marsh. A mixture of salt-tolerant grasses and shrubs among them, marsh elder, hibiscus, highbush blueberry, and red maple, mark the transition between the marsh and the true upland vegetation.

Ecologically, the estuary, with its tidal marshes, tidal creeks, mud flats, and sand bars - combines marine and terrestrial features into a highly productive, yet fragile environment. Recognition of the invaluable role of estuaries, and of tidal marshes in particular, in the production of considerable amounts of organic material which serves as food sources for finfish and shellfish, has revealed that estuaries and tidal marshes are among the most productive and fertile natural systems in the world.(11) The excess of organic matter produced in the marsh is transported into the estuarine waters where it becomes available to bacteria decomposers and other detrital feeders (organisms feeding on loose, or disintegrating matter.) The daily tides "cause continual exchange of nutrients between coastal and marsh waters."(12) In some moderately to severely disturbed marsh sites, especially where salt water flow is restricted, Phragmites communis will often dominate the marsh. This species is much less productive in terms of biomass produced, as compared to the other salt marsh plants discussed above.

> Why are salt marshes so productive? First of all, salt marshes grow in areas where salt water and fresh water are mixed and valuable nutrients circulate rapidly between organisms, water and the bottom sediments. The tides maintain a constant supply of oxygen and nutrients and remove waste products. Other things being equal, a flowing system will be more productive than a standing system. A second major reason for the fertility of salt marshes is that the primary productivity is dependent in great part on rooted vegetation, most importantly Spartina. The abundance of the plant material supports the animals that make the marshes so valuable to man.(13)

Marsh vegetation plans a key role in converting inorganic compounds (nutrients) and sunlight into the stored energy of plant tissue. As the dead leaves and stems of the marsh plants enter the water and are broken down by bacteria, they leave the storage component of the energy cycle and, as small particles of organic detritus, they become the food of fiddler crabs, worms, snails, mussels and the variety of larval stages of fish and shellfish of estuarine waters. About half the plant tissue created in the tidal marshes is flushed out into the estuary to support life there.(14)



SOME COASTAL RESOURCES IN THE SOUTHEASTERN CONNECTICUT REGION

KEY:

- TIDAL MARSHES (P.A. 695)
- FLOODPLAINS (1954 HURRICANE DATA)
- * PUBLIC BEACHES

As familiar as the distinctive bands of vegetation are the meandering tidal creeks of salt marshes. These creeks are the natural drainage channels which carry tidal waters back to the sea. In addition, the creeks provide passageways for the fish and other marine species that move into the marshes to feed, to spawn, or to seek shelter.

The tidal marshlands receive varying quantities of fresh water inflow from drainage of adjacent uplands. Both nutrients and pollutants drain into the marshlands and, eventually, the estuarine waters. The tidal marsh serves both as a filtering device for the pollutants present in the terrestrial runoff, and as a storage and transfer station for nutrients from upland sources which are partially used and recycled within the tidal marsh, but which are ultimately transported into the estuarine waters to provide basic nutrients for the food web. Marsh areas have the capacity to treat runoff waters from upland areas. Although the upper limits on this filtering capacity have not yet been determined, that tidal wetlands function to reduce BOD and decrease levels of nitrates and phosphates has been documented in at least two east coast marsh studies.(21) Tidal marsh vegetation is also important in absorbing storm impact by actually slowing the surge of flood waters.

Coastal Floodplains

The coastal floodplain follows the shoreline and generally extends from the water's edge to the 10' contour - or encompasses all land in the first 10 feet of elevation from mean sea level inward (the area usually inundated by major storms.) Tidal marshes, beaches, and dunes are all unique natural features within the coastal floodplain belt.

The floodplain has two major functions in the coastal zone. First, the floodplain with its associated vegetative cover receives the full impact of the storm water. The vegetation is invaluable as a natural breakwater for the surging storm tides. Second, the floodplain displays a similar absorptive capacity by serving as a buffer area to protect the other fragile shoreline resources such as tidal marshes from rapid terrestrial runoff, heavy sediments, and other pollutants.

Sandy Beaches and Dunes

The beachfront is a harsh environment. The plant and animal species of the beach thrive on the continuing natural disturbances such as the waves which bring

fresh food sources to these hardy inhabitants. In short, the marine animals of the beach environment, largely burrowing species such as crabs, coquina clams, and razor clams, are organisms that can withstand the high stress and constant motion of the beach sands and the waves.(14) The marine turtles, fish, and shore birds that temporarily inhabit the beachfront also feed on food sources carried by the incoming tide and exposed and made available by the receding tide.

The Southeastern Connecticut shorefront is characterized by either bedrock outcrops or by heavy sand deposits.(15) These shorefronts receive the full brunt of ocean storms. As part of the coastal floodplain system, sandy beaches are well suited to receive the fury of storm waves. In certain places along the ocean shorefront, the bottom slopes gradually away from the shore, and offshore sand bars are thrown up by the waves. These offshore bars act as natural breakwaters which reduce the force of storm tides. Offshore rocky reefs serve a similar function in breaking waves, thus reducing the stress on the coastline. Numerous reefs and offshore bars in Southeastern Connecticut waters provide this valuable coastal service. Though a nuisance to boaters and sailors, these features do much to reduce tidal action on Connecticut beaches and the general shoreline.

Sandy beaches in Connecticut are relatively narrow and short of span. Some are municipal or state-owned, but the majority of beaches are owned by private individuals or beach and neighborhood associations. Connecticut does not exhibit the lengthy, barrier, offshore beaches characteristic of the Rhode Island coastline. The Southeastern Connecticut coastline does have one prominent sand spit beach, however, which is connected at one end to a major promontory or headland called Bluff Point in Groton. This sand spit beach, which is stabilized by a rather sparse dune grass population, serves as a protective buffer to the shallow Poquonnock River estuary with associated salt marshes. Characteristic of most sand spit beaches, the Bluff Point Beach shifts slightly each year as sand is carried away from the outermost beachfront, and is redeposited as new locations at the end of and behind the sand spit.

The Connecticut shoreline has a history of critical erosion.

> Manmade modifications account for [the majority of] conspicuous and appreciable shoreline changes. [For example], the marsh-beach island in Jordan Cove owes its triangular shape, in part, to bulkheads which extend along both sides of the back. The spit, extending from the west end has enlarged considerable northward and eastward

> since 1958....[Similarly], at Pleasure Beach [in Waterford], filling with enlargement of the parking area has modified the shoreline and reduced the size of the lagoon. New groins and seawalls account for changes there.
>
> The shore of Noank [and Mystic] has a long history of modification for boat yards, commercial and residential development. Modern piers and groins are interspersed with decrepid structures of considerable antiquity. Beebe Cove and Spence Point, like Noank, are protected by old walls and riprap which have prevented natural changes with the possible exception of some enlargement of the marshes.(15)

The main function of sand dunes is to serve as a storage area for sand to replace that eroded by waves or torn away by storms, and thus to provide long-term stability to the beachfront. When the dunes are damaged so that they erode away, the essential buffer is gone and the whole shore is threatened with each winter storm or hurricane.(14)

> Dunes are waves of drifting sand, the height and movement of which is determined by the direction and intensity of the wind. The dunes are greatly influenced by the presence or absence of the associated plant community. An important function of the plants is to impede the rate of sand movement. Since prevailing winds are onshore, shifting dunes tend to move inland. Plants disrupt the smooth flow of air and allow the sand to settle out on the front or top of the dune and it then does not move inland.(14)

In Connecticut, the most common and abundant stabilizing dune plant is dune grass. Anchoring its roots deeply into the sand, the grass is able to withstand the dry, hot conditions of the summer beach environment. A waxy cuticle or band around the base of the grass at sand level maintains sufficient moisture at a critical point in the stalk between the above-sand grass and below-sand roots. Human or vehicular traffic across the dunes grass can snap open the waxy cuticle, thus releasing the small water source, bringing death to the dune grass, and hastening the erosion and demise of the dune.

Beaches on the Southeastern Connecticut shoreline have been nourished artificially, for the most part, rather than by natural dune replenishment.(19) "Ocean beach was the first area in Connecticut to receive large scale artificial nourishment. Unrecorded amounts were placed in 1940 to repair hurricane damage and 42,000 cu. yards was placed again in 1965. Redistribution of this sand probably accounts for growth on this spit."(15) Additional filling and actual beach construction occurred on Stonington Point in the last decade. Familiar low, sand dune formations

in the Southeastern Connecticut Region exist in Waterford at State-owned Harkness State Park which borders on Long Island Sound, and in New London on the Mitchell College property bordering on the Thames River.

Natural erosion by waves has served to nourish some beaches. The eroding headland at Bluff Point does provide Bluff Point/Bushy Point Beach with new material.(15),(19) Despite this natural nourishment process, "Bushy Point Beach, a tombolo connecting Bluff Point to Bushy Island has a history of instability. The absence of vegetation in 1929 suggests sand movement then and [various] maps indicate recession since 1846 by more than 150 feet....The end of the beach was breached in 1938 and probably by every historical storm before or since. A minor effort has been made to fortify the low section of the bar near Bushy Island with rocks."(15) The unstable and even fragile character of Bluff Point Beach would not make this a good choice for intensive beach development for the Connecticut public. A more suitable beach for intensive improvement and nourishment might be that located on the east side of Bluff Point, and which borders Mumford Cove.

HUMAN IMPACTS AND RESOURCE MANAGEMENT RECOMMENDATIONS

Estuaries

In Connecticut the major estuaries are deep water areas with dredged channels which serve as principal harbors and ports on Long Island Sound. Historically, as well as indicated in the most current (1970) census publications, the major population centers of Connecticut have been concentrated along these estuaries.

In the Southeastern Connecticut Region, the Thames River is the principal deep water estuary and port. Unlike the more shallow estuaries of the Region, the Thames River does not support an increased summer population, but instead generates about 75% of the Region's year-round employment by the defense-related industries located along its shores.

As semi-enclosed, natural harbors, estuaries have long been popular sites for residential, commercial, and industrial development. In addition, estuaries stimulate inland commerce which is enhanced by the complete transportation network characteristic of harbor areas. As drainage basins for vast inland areas, estuaries receive all types of pollution - chemicals, pesticides, industrial and agricultural wastes, and sewage. The developmental value of estuaries stimulates bulkheading,

dredging, and filling to create waterfront industrial, recreational, commercial, and residential sites.

The population centers clustered around estuaries as well as other shoreline areas place high demands for electricity. Power plants join the uses located along estuaries. Thermal power plants pour heated effluents into the water raising the temperature, and causing direct and indirect adverse effects upon local flora and fauna.(14) All of these human activities - overload of pollutants and nutrients from terrestrial sources, and the alteration of water circulation in the estuary, can destroy the delicate ecosystem of the estuary.

This is particularly true for the Thames River estuary in Southeastern Connecticut. As the center of economic activity in the Region with its full complement of urban and other water-related uses, development pressures continue to rise, and pollution is a constant problem. Although a relatively deep estuary with considerable tidal action, pollutants pervade the waters and also become incorporated in large amounts into the bottom muds of the river. Despite waste water treatment dictated by Connecticut's strict water pollution laws, water quality in the Thames River is still poor enough that the harvesting of shellfish from the estuary is not permitted. *Since coastal development generates pollution which is directly transmitted to coastal waters, a main coastal zone management concern should be for the control of the quantity and quality of water release or runoff into these waters.* Connecticut is fortunate to have a sophisticated, on-going water quality control program. The State water quality staff currently maintains water monitoring stations in fresh water and marine locations, and furthermore, grants permits for any type of discharge into the waterways of the state.(16)

One kind of waterways discharge that has considerable impact upon a portion of the Long Island Sound estuary is the thermal effluent from the Millstone Atomic Power Plant located on the coast in Waterford. At present, a group of scientists are working with Millstone officials on a field study which seeks to determine some of the effects of these thermal effluents upon swimming fish held in captivity near the plant's warm water outfall.

Another related impact of the Millstone operation for which more data is presently available, concerns the once-through cooling process which draws millions of juvenile fish larvae through the plant intake, along with the cooling water,

through the plant. Many populations, especially black-backed flounder, and menhaden stand to be destroyed by this ordeal, and as menhaden in particular are the most valuable commercial fish in the U.S. today, this process merits considerable scientific attention and correction.(22)

Other human impacts that can contribute to estuarine degradation are dredging activities and bridge construction. Bridge and causeway construction using solid fill across estuaries impedes tidal flow with the creation of constricted openings. The blockage can result in heavy siltation within the estuary which can have suffocating effects upon shellfish filter feeders of the ecosystem.

> Dredging, the excavation of bottom material, and filling, the deposition of materials into the bottom, are construction techniques used widely in the coastal zone. Dredge and fill activities adversely affect the coastal ecosystem in a variety of ways. They can create short and long-term changes in water currents, circulation, mixing, flushing and salinity; add to the water turbidity, siltation and pollution; and lower the dissolved oxygen.
>
> The most obvious effect of dredge and fill is the direct destruction of habitat and the associated organisms.(14)

Any coastal zone management program should require that any proposed dredge or fill operation "meet a rigorous test of public need because the potential of ecologic damage is so high."(14)

The Thames River estuary is currently being dredged to accommodate large, deep draft submarines which will travel up the river to the Naval Submarine Base. There was considerable local and state controversy concerning the disposal of the 2.8 million cu. yds. of dredged spoils. The Army Corps of Engineers sustained the highly unpopular decision to dump the material approximately one mile off New London in what is commonly referred to as the New London Dumping Grounds. Efforts to halt the disposal operation have been to no avail as scientifically-proven adverse effect upon the local waters has not been demonstrated to date. (The actual dredging was not opposed as cause was cited as necessary for national defense.)

Tidal Marshes

Long regarded by man as wasteland, tidal marshes have been drained and filled to provide flat building ground for residences, factories, restaurants, airports,

recreational uses, and garbage dumps. Other marshes have been ditched for mosquito control. Designed to eliminate mosquito breeding areas by providing channels which interconnect with the quiet depressions where mosquito eggs mature, and which provide for thorough tidal flusing, the ditching destroys the normal drainage pattern of the marsh. The natural pattern of drainage in tidal marshes is critical. Tidal waters must have unrestricted entry to marshes. Other impacts upon these shoreline resources such as roads, canals, pipelines, and tide gates seriously affect marsh drainage, and hence, the free exchange of nutrients from land, to marsh, to estuary.

In addition to the disruption of normal drainage, ditching has also tended to alter the vegetation and associated animal populations of the marsh. "Although a general drying-out of the marsh has occurred in many situations [encouraging the growth and dominance of the less productive Phragmites communis, and eliminating specific forms of marsh fauna], in some cases the formation of levees along ditches has tended to create poorly drained, or impounded areas [which can provide excellent mosquito-breeding areas].(21) In brief, at the point where the marsh edge slopes downward toward the ditch, a turf line may develop, and in conjunction with the "levee", can effectively dike the adjoining marsh from tidal flow.

Another kind of vegetational influence in the Southeastern Connecticut Region occurred in the Barn Island Marshes. "Areas that were algal pannes prior to ditching are now dominated by stunted alterniflora."(21) As the Niering-Warren(21) paper points out, while "mosquito control is recognized as a valid problem, there is a need for a re-evaluation of the present methodology." Studies on the common salt marsh mosquito in Connecticut, Aedes sollicitans, revealed that preferred breeding grounds were moist areas rather than standing water. This would suggest that the extensive ditching of the marsh (especially the upper slope areas) might be modified or abandoned altogether, to eliminate the wet, poorly drained areas which the ditch "dikes" have served to create.

Adjacent development to the marsh, or in the neighboring upland areas, has accelerated runoff which often results in a too-rapid flow that bypasses the filters of the marsh, carrying nutrients through the estuary too quickly to yield full benefit to the marine life there. The quality of the runoff into the marsh dictates the quality and usefulness of the marsh system. Although the tidal marsh can assimilate a reasonable amount of contaminants, they do have a limit and so must be protected from gross pollution from both land and estuarine sources. Oil from

spills, and toxic substances can destroy these fragile coastal resources.

As described earlier, tidal marshes are a vital component of the estuarine system. One of the greatest threats to the Connecticut coastal zone is the dredging and filling of tidal marshes. This is a national trend. "Forty-five thousand acres of marsh were destroyed from Delaware to Maine alone between 1954 and 1964. Laws passed in the last decade have done much to protect the marshes but their destruction and degradation still continues."(13) "In the case of Connecticut, 50% of the tidal marshes have been obliterated."(11) Although Connecticut presently has Public Act 695 (1969) to preserve the state's remaining tidal marshes, "it has been estimated that 40% of Connecticut's salt marshes were gone by 1959."(13)

A healthy tidal marsh serving as spawning ground, nursery, water purifier, sediment trap, storm barrier, major food producer and energy storage unit is a critically valuable and important resource of the coastal area. *A coastal zone management program should provide for the strict preservation and protection of all remaining tidal marshes in the state, for the rehabilitation and restoration of other degraded tidal marshes, and should prohibit further indiscriminate ditching of marshes for mosquito control.*

Coastal Floodplains

Any development in the floodplain can seriously affect the absorptive capacity in time of storm. The clearing of vegetative cover and surfacing in the floodplain multiplies storm damage by increasing the rate of terrestrial runoff surge which adds to the level of flood waters in confined estuaries. The runoff problem is compounded when the floodplain drains into a small embayment or lagoon with a restricted rate of flushing.(14) There the water and pollutant contaminant levels can remain high for a considerable period of time.

Structures built according to conventional design offer a great deal of resistance to storm tides, and generally suffer much damage as a consequence. Although the Connecticut shoreline is somewhat protected from the direct force of ocean storm waves by Long Island, which acts as a large breakwater, extensive damage from high waters caused by winter storms or hurricanes has not been uncommon. Storm flooding may reach as much as 12 feet or more above normal tide level in certain areas, inundating large areas of habitation and causing extensive property damage and risk to human life.

The hurricanes of 1938 and 1955 wrecked havoc in the densely residential communities of East Lyme, parts of New London, Groton, Mystic, and Stonington in Southeastern Connecticut.(17)

"The most significant physical problem connected with the river shores and coastal areas of the Region is the threat of hurricane damage. The entire coastline and the land adjacent to the rivers and estuaries as far north as Norwich have experienced damage from hurricane flooding."(18) Although hurricane protection projects have been recommended for several communities in Southeastern Connecticut, only one has been constructed - on the Pawcatuck River in the Town of Stonington. The prohibitive cost to build structures has kept them out of other Southeastern Connecticut communities.(19)

Clearly the best form of flood protection for man is not to build in the floodplain. *Because of its specific ecological functions described in an earlier passage, the coastal zone management program should require that the coastal floodplains be left undeveloped as conservation areas, or require that any building in the coastal zone be closely regulated.* As prescribed by the National Flood Insurance Program which seeks to regulate development of flood prone areas through implementation of land use controls by the local communities, regulation normally includes such restrictions as prohibiting the filling of marshland, building code regulations requiring minimum flood elevations and other construction specifications including sewage disposal systems, and standards to guarantee safe access to and egress from home sites in emergency situations.

Unfortunately, the ecological value of the floodplain as a protective buffer for estuarine sub-systems such as tidal marshes is usually overshadowed by its (obvious) function as a flood runoff area. But even this is ignored as man continues to build to the shoreline, and the floodplain affords some of the most attractive, flat building space known to man.

In Connecticut, severe coastal storms have occurred infrequently enough so that man forgets the fury of the storms. Hurricane casualties have dropped, probably because of improved warning, while the amount of property damage has taken a turn upwards, largely because capital investment in land along the coastal zone has increased.(20)

Dunes and Beaches

The great development pressure on dunes and sandy beachfronts often creates a difficult land use dilemma. Shorefront areas are historically desirable locations for residences and other types of development. At the same time they are among the most environmentally sensitive areas in the world.(13)

Conflict between man and this environmental system becomes critical after buildings are established and erosion has begun to occur. Erosion begins with the destruction of vegetation. The fragile network of vegetation growing on shifting dunes is adapted to withstand the rigors of wind, sand, and salt, but not human feet or vehicles. Dune grass stabilizes the dune site; this stabilizing cover must not be broken. When the cover of vegetation is broken, the dune movement is accelerated to a point where plant growth can not keep pace with the shifting sand. The result is a chain reaction which leads to erosion and loss of the shifting frontal dune. Normal and storm waves continue to pound the beaches, but the sand carried away by the waters is not replaced by eroding dune at a rate fast enough to maintain the beach. Once the dune is weakened, its valuable functions are impaired and it no longer serves its protective and replenishing role. Dune stabilization is a costly, and not often successful project. Clearly a dune preservation and management program is necessary to maintain the already narrow Connecticut beaches in their present state.

The tremendous pressure on beaches and dunes has created serious erosion problems, resulting in the loss of these environmentally fragile features. A vegetated dune is the only stable dune.

> Because dunes and other coastal features are easily destroyed by man's activities, there are many constraints on their use and that of adjacent floodplains and tidal marshes. Vegetation must be kept intact and all traffic [foot and vehicular] must be prohibited altogether or strictly controlled. *In summary, dunes are enormously valuable and exceptionally fragile. They should not be altered in any way. They are to be set aside for complete preservation and encompassed by as broad a buffer area as necessary to allow for their movement and to protect them and the larger system of which they are an integral part.*(14)

Seashore bathing beaches are still quite limited for use by the general public in the Southeastern Connecticut Region. There are numerous private beaches and a few town beaches, but only three beaches along the entire coastline of the Region

are presently available for use by the general public. These are located at Rocky Neck State Park in East Lyme, and at Ocean Beach Park in New London, and Bluff Point State Park in Groton.* Together they provide a total of less than 5,000 feet of beach frontage on Long Island Sound. This represents slightly less than 1.5% of the entire 64 miles of coastline in the Region. The two beach parks contain about 19 acres of beach.(18)

There is a critical need for additional beaches open to the general public in this Region. To accommodate the large numbers of beach users new areas are certain to attract, a well-planned and well-enforced beach management program to protect and maintain the sensitive dune grass populations which are vital to the continued existence of the beaches is necessary. Unfortunately, the lack of available state funds for beach improvement and creation on the Connecticut shore has brought this (once on-going) program to a halt.(19)

CONCLUSIONS AND RECOMMENDATIONS FOR MANAGEMENT OF THE COASTAL ZONE

From the preceding discussion of coastal natural resources, it is clear that many development activities in the coastal area are a potential threat of ecologic damage to the coastal ecosystem. The shoreline area has been the essential basis for economic growth and change. "Often the same qualities that make a coastal area so valuable also made it vulnerable to damage from pollution and other environmental disturbance."(14)

The chief recommendation of this paper calls for statewide recognition that the coastal zone area be managed as a whole, interdependent, and fragile system. While the different coastal resources display varying degrees of sensitivity to natural and human impacts, there is a close association among these coastal resources which dictates that the adverse effects or impacts upon one resource can lead to considerable ecological degradation of another by simple transmittal.

This statewide recognition may best benefit the coastal zone if it takes the form of formal legislation establishing a statewide Coastal Resource Management program which embodies the coastal zone management principles outlined in the preceding section of this paper. Furthermore, such a management program should be

* At this writing, Bluff Point Beach will not be intensively developed as a state beach.

specific in its definition of the coastal area, the constraints on specific uses, and in the identification of the coastal natural resources to be protected from direct and indirect human impacts. It will become necessary to conduct an in-depth survey of the Connecticut coastline in order to accurately identify the critical areas that warrant immediate management attention. The irregularity of the Connecticut coastline makes it topographically conducive to marina development - however small or large. But this should not be the only use for the coast. Priorities for coastal development and preservation must be established. There must be some natural areas, some marine development, some commercial and harbor development, and some intensive beach and other recreational development.

In the establishment of a coastal area boundary for purposes of municipal or state management purposes, consideration should be given to the establishment of permanent buffer space around the identified areas of coastal concern. As illustrated in the final discussion on beaches and sand dunes, buffer space is an important management concept to be included in any coastal zone management program. Man cannot built right up to the very resource he is attempting to protect. The close association and range of sensitivities of the coastal resources which produce the complex ecosystems of the coastal waters will not permit this. Some designated amount of buffer space as part of the recognized coastal area (which may vary with a particular coastal resource) appears necessary for the working success of a coastal resource management program.

It is hoped that this paper has provided the general outline for the development of a coastal ecosystem model which will promote and suggest logical coastal resource management principles. In order to implement the management principles, however, it will become necessary to establish a statewide coastal resource policy, and to create the management vehicle for enforcement, as well as the implementation of that policy.

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AN OVERVIEW OF THE JURISDICTIONAL PROBLEM IN THE DEVELOPMENT OF A COASTAL ZONE MANAGEMENT SYSTEM

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AN OVERVIEW OF THE JURISDICTIONAL PROBLEM IN THE DEVELOPMENT OF A COASTAL ZONE MANAGEMENT SYSTEM

PREFACE

This paper was prepared by the staff of the Southeastern Connecticut Regional Planning Agency (SCRPA) under a special pilot study grant from the Connecticut Department of Environmental Protection (DEP). The overall objective of the pilot study is the development of recommendations by which local government and regional planning agencies can more effectively be involved in the coastal zone management process using that area bordering Long Island Sound and the Thames River Estuary in the region known as Southeastern Connecticut as the study area. Hopefully, the recommendations regarding these governmental relationships will be applicable in other areas of the state.

The first paper published under this pilot study addressed itself to the issue of choosing a method for establishing a land boundary for the coastal zone. In addition to the analysis of various boundary-determining methods, the paper provided a vehicle for identifying a number of central issues related to the creation of a special coastal zone management system. The second paper published under this study examined the natural resource base in the coastal zone. Additionally, it analyzed the various relationships and impacts of man on the coastal ecosystem.

In the development of a coastal zone management system, it is at once apparent that such a process cannot take place in isolation but must develop as a function of the existing system of regulatory, advisory and legal authorities which influence the conservation and development of the coastal zone. Consequently, the purpose of this paper is to describe and analyze to the extent possible the existing jurisdictional environment in which the new coastal zone management system is to develop. In accomplishing this extremely complex task, the SCRPA staff identified three major areas to be investigated. They were: 1) statute law, 2) case law, 3) regulations. A decision was made at the beginning of the project that due to the limited time allotted for this phase of the pilot study, the staff would focus its efforts on Connecticut statute law and leave the remaining analysis of case law and regulations to the staff of the state coastal zone management project when it was assembled. Subsequently, attached to this paper is a compendium of state statutes and a listing and description of Federal and local agencies with jurisdiction in the coastal zone. Included in this text is a preface, an introduction, an analytical overview of the jurisdictional system, a summary, and a conclusion.

The criteria used for the inclusion of certain of Connecticut's General Statutes in the attached compendium was, for the most part, broadly based on functions rather than prescribed jurisdictions per se. In order to gain an appreciation of the vastness and complexity of the jurisdictional problems, it is important to remember that since almost any activity can conceivably take place in the coastal zone and that the chain of jurisdictions varies according to those activities, the resultant jurisdictional network is a virtual maze of Federal, State, and local bureaucracy. Consequently, at the present time even though the practical value of a compendium in this form may appear limited, it is useful for

our purposes in that it provides a vehicle to demonstrate the intense complexity of the jurisdictional problem for coastal zone management.

The criteria for the consideration of the activities to be regulated in the coastal zone was also flexible. Generally, any activity related in some direct, identifiable or obvious way to the existence or use of land was included in the compendium while rights or procedures unrelated to time or place were generally excluded. In the latter category, laws related to money, banking, insurance, crime, disasters, war or other emergencies, although reviewed for their relevance, were generally excluded from this compendium.[1]

Because of the very broad range of functions that can, and often do, take place in the coastal zone, it seemed perfectly appropriate for us, for example, to consider the regulation of marinas by Connecticut's DEP and the Army Corps of Engineers as well as the licensing of general hospitals by Connecticut's Commission on Hospitals and Health Care. Although the former deals specifically with a recognized coastal function and is implied in the general tenor of the project, the latter deals with a highly complex and significantly large developmental function which theoretically could take place within the coastal zone and have major impact on it. One of the major hypothetical questions, then, that arose out of this broad functional approach was, *Can people who presently regulate the construction of such things as general hospitals be integrated into a broad(er) coastal zone management structure, or does the interplay of such diverse and remote interests and technical considerations require an entirely new kind of decision-making body?* This question then becomes one of the major structural and administrative issues of this pilot project. To the extent that answers are to be found, it is the purpose of this paper to examine and explore the broad jurisdictional issues surrounding such a problem.

INTRODUCTION

In order to glean some kind of rationale from the complex jurisdictional framework operating in the coastal zone, the existing system should be viewed from the broader perspective of basic fundamental rights. That is, the system must be viewed from the perspective of the laws which establish and protect the rights of individuals to use land and water and consume the natural resources of this land in a variety of ways and under a variety of conditions. The historical role that coastal waters have played with respect to these laws also becomes important. In the settlement and development of this state and nation the importance of the coast is rather obvious, even to the casual observer. One has only to look at a map to see that most of the great settlements of this state were within easy access of some body of tidal water (Hartford, New Haven, New London, Norwich).

The basic principles of property law and rights affecting western civilization as we know it today can be traced back to English law in the middle ages.

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[1] The rationale for focusing attention in this paper on land and land use is that the air and water is already controlled by the State and Federal Governments. Consequently, it is only the land which falls outside of those jurisdictions. Thus, we are accepting the implicit assumption that "national interests" are already being served where air and water are concerned.

In the founding of this country these principles were reaffirmed through the Declaration of Independence, the Constitution, the Bill of Rights, and by extension, the State Constitutions and municipal charters. These documents can be considered the modern legal sources which give individuals the right to behave in certain ways and to do certain things with their property.[2] At the same time, these documents place definite limits on the authority of government to intervene in those functions.

In Connecticut the earliest recorded court case involving water rights goes back to 1783.[3] The first court case officially formulating what is known as the doctrine of riparian rights occurred in 1827.[4] Riparian rights have since come to represent a property right arising from ownership of land adjoining a water course. Consequently, it is inseparably annexed to the soil. Basically, a riparian right includes the right to make any reasonable use of the water which is related to the adjacent land with due regard to the rights of adjacent riparians and the public in general.[5]

In examining the jurisdictional aspects of the coastal zone, it is important to appreciate the dynamics of the process. That is, the development of jurisdictions of various levels of government has been the result of a process spanning a 200-year period since the creation of the earliest aforementioned rights-giving documents. Recognizing the inevitability and necessity of such a dynamic process, the framers of the Constitution attempted to create a balanced, tri-partite, form of government in which one part (legislature) is charged with creating specific laws governing a wide variety of functions or activities. The second body (courts) is charged with interpreting the laws, while the third body (executive) is charged with the responsibility for executing those laws.

The tie that binds free individual activity to governmental regulatory authority is a concept put forward in the Constitution called "general welfare."[6] Generally, it limits government to acting in the public interest rather than for any special or private interest. The definition of what constitutes public interest, or general welfare, then becomes especially important in establishing a system of land use control which will serve the public interest.

Primary responsibility for land use control has, in most cases, been vested in municipalities by the states.[7] This power has been generally confined to the powers of zoning and planning. These powers generally provide that although a property owner is entitled, by right, to develop and use land for its "highest and best (most profitable) purposes," certain specified limitations and restrictions

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[2] State of Connecticut. Register and Manual, 1973, pp. 18-57.

[3] Fisher, C.O., Connecticut Law of Water Rights, p. 9.

[4] Ibid., Fisher, p. 10.

[5] Institute of Water Resources, An Economic Evaluation of Connecticut Water Law, p. 1.

[6] U.S. Constitution, Preamble.

[7] American Society of Planning Officials, New Directions in Connecticut Planning Legislation, p. 5.

may be established and imposed in the interests of general health, safety and welfare.[8]

Two basic types of power are given to government to promote and enforce public interest where land use is concerned. They are police power and power of condemnation.[9] The former provides the authority for government to regulate and intervene in those circumstances where the individual is clearly in conflict with the public interest as it is defined by law. Measures that prevent a landowner from imposing harm on his neighbors may be enacted under police power. Condemnation, or eminent domain, is that power given to government to use or acquire land in those cases where the use of police power is inappropriate but where the "public interest" with respect to land use is not being served. In other words, measures that compel a landowner to confer a benefit on the community must be enacted under the condemnation power.[10] To illustrate, under its police power a community may prevent a landowner from conducting a nuisance industry on his property without compensation. However, it may not force him to lease his land in its natural state to be enjoyed by the public as, say, a forest preserve. The latter would constitute what is known as taking of land.

Use of either police power or eminent domain by government carries with it certain constitutionally required responsibilities and obligations. Since government cannot take land, if it is to exercise the power of condemnation, it must provide just and equitable compensation to the individual for his or her loss.[11]

In order to raise revenues to operate, or to provide such things as just and equitable compensation, government has been vested with the power to tax. Personal and real property, as well as income, have become the most common commodities taxed by government. These commodities are, of course, the by-products of a highly competitive, free enterprise system of economics which, theoretically, at least, is independent of the major activities of government.

From this brief overview of governmental functions, it is important to appreciate that the concept of general welfare, as it is expressed in our form of government, really only exists in the abstract sence, like the statistically average individual with 2.2 children. It is also important to recognize that the concept of general welfare is at once idealized as well as abstract. In fact, operationally, government is often cast in a conflicting role with its many constituents and sometimes even itself. By this we mean that a government charged with safeguarding the general welfare of a lot of people can only do this in the abstract and to the extent that it does not jeopardize the combined, mutual and real interests of its individual constituents. In blatant examples of conflict, such as serious crime, the idealized model of government as a resolver of conflict works reasonably well.

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[8] Costonis, J.J., Space Adrift, p. 14. The regulation of wetlands should be noted for its significance in this regard since it extends the general welfare concept beyond the traditional limits associated with the exclusive welfare of people to include the welfare of the environment.

[9] Cole, B.J., Ed., Planning For Shoreline and Water Uses, p. 10.

[10] Ibid., Costonis, p. 15.

[11] Ibid., Costonis, p. 14.

But a theoretical as well as real problem begins to arise when the conflicts are not as obvious and the interests are more subtle. Where land use control is concerned, government itself becomes an interested party, even though in idealized terms it is seen in the opposite sense. Consequently, this operational distinction is crucial in order to fully appreciate government's role in land use regulation. In simple terms, this problem exists because of the dependent nature of government on the outcome of land use, i.e., taxes. Thus, in order to insure its own continued existence, government's first responsibility is to work to insure the "common good," or the prosperity of its constituents. If the economic environment in which government exists sees economic prosperity largely in terms of growth and development of land, so be it. In the real world government can neither conceptually, nor actually, supercede this fundamental fact of (its own) life. John Costonis, in his book Space Adrift has characterized this hand-and-glove relationship between an individual property owner and government as a "stacked deck" in favor of the property owner. Most people would argue that this is the way it should be in a free society. Nevertheless, it is for this reason that in general, government regulation of land, and land use, is, in a very large sense, a theoretical and practical anomaly. Whereas in the idealized sense it is not difficult to perceive a situation where government can adequately function independently to resolve conflict between adjacent property owners, the conceptual model is rendered seriously inadequate when government is an interested third party.

Thus it can be seen that at the present time there are distinct upper limits to the extent that government, charged with protecting the "public interest," can be anything other than "pragmatic" in the short-term sense in regulating the use of land without undermining the tentative economic foundations upon which it is built. If it is overly restrictive, dire economic consequences will result, eroding the health of the tax-based revenue system on which it is dependent.[12] If it is overly permissive, its resources will quickly be decimated and of no future long-term value.[13] This problem, of course, is heightened by the fact that those who have primary responsibility for regulating land use, namely local officials, have a considerable amount at stake in the outcome of such activity. Since the criteria against which their decisions are evaluated, for the most part, is limited to the socio/political arena, their decisions tend to be pragmatic and weighted to the short-term benefits of their constituents. The result is that long-range abstract considerations such as "ecology" tend to fall by the wayside. *In short, then, the problem of reconciling legitimate short-term development needs with legitimate long-term ecological needs through some kind of a management vehicle is the problem of the coastal zone.*

How, then, is government, with its own economic interests at stake, to effectively regulate and resolve conflicts in the interests of the general welfare? Quite simply, it can't very effectively even though the semblance of such exists.

Perhaps it is valuable to re-examine some of the early history of governmental

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[12] A healthy tax base is being defined in general terms to mean an increase in the value of property at a rate greater than the increased rate of demand for municipal services. This is usually accomplished by an expansion of industrial and commercial activity (which increases the value of a given piece of property upon which such activity takes place) without a concomitant increase in residential population requiring expanded municipal services such as water, sewer, police and fire protection, and schools.

[13] Strip mining in Appalachia.

intervention in land use and planning in order to glean a rationale behind today's system. We can speculate that since land was virtually an unlimited commodity a half century ago, governmental officials at that time probably theorized that if the economic growth of the public sector was to be the outcome of land development, and since land itself was virtually an unlimited commodity, the stability of government was virtually assured. Thus, a government dependent on the outcome of the development of a plentiful resource, land, could rationalize certain (of its own) "losses" in the form of taxes as a result of certain development restrictions it generated in the interests of the "public good."

But like the private interests whom it was supposedly regulating, the "public," through the taxing mechanism, could not afford to withstand major potential economic losses even for its own long-term benefit. Not only did the short-term economics forbid it but the political climate did as well. Today the updated version of this theme continues to dominate the process of land use decision-making and it is precisely this aspect which continues to be the Achilles heel of the existing local jurisdictional model which prevails.

In the real world of politico/economic process, government officials continue to be powerless to advocate for the general welfare in the abstract, or idealized, sense in cases in which the potential economic loss, either to government or to powerful private interests, appears great.[14] Again it is crucial to remember that for many of these issues the economic interests of government, for taxes, and of private individuals, for profit, are very close if not the same.

This complex economic and land use relationship is not without social implications either. More fortunate communities, which have exploitable natural resources such as access to the coast, tend to attract the much desired income-producing industry necessary to develop a "healthy" tax base.[15] The combination of desirable coastal property and a strong industrial-supported tax base generally increases the value of already desirable residential property. The highly priced residential property tends to attract upper income families and restrict racial minorities, the elderly, the poor, and others on low or fixed incomes who are forced to find less costly housing elsewhere, usually in the inner city.[16] The net result is a highly segregated community and an accelerating downward social and economic spiral for the less fortunate towns which have to provide municipal services for their residents yet cannot do so because of a deteriorating tax base.

One of the major effects of this land use decision-making model in which the decisions are all but predetermined has been the gradual despoilage of large quantities of coastal land, covertly sanctioned by a government quite powerless and unwilling to do otherwise.

Where does the answer lie? Who is at fault? Is it individual officials who

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[14] Although there are innumerable examples where government has rejected certain kinds of development proposals (ex., Griswold and the dog track), this in no way undermines the general thesis concerning the inevitability of growth and development. The thesis rests on the principle that it is more likely than not that land will continue to be developed for some kind of purpose.

[15] Such as the Town of Waterford and Northeast Utilities.

[16] Such as New London.

have shirked their duty? Is the function of land use decision-making inappropriately allocated to local government when it should be moved to a higher level of government? Or is it simply the result of a complex of determining factors which lie outside the control of any public decision-making system? These are crucial jurisdictional issues upon which the future of the coastal zone rests.

OVERVIEW

If we begin our analysis of the jurisdictional framework with the a priori assumption that there is a coastal zone management problem because of the overall ineffectiveness of the existing bureaucratic system of jurisdictions, it is virtually impossible for us not to develop a negative bias about such bureaucratic mechanisms. In fact, throughout the process of reviewing state statutes, almost paranoid attention was paid to discovering areas of duplication, fragmentation and lack of coordination between agencies charged with the responsibility to regulate some coastal-related activity. Although there were any number of areas too numerous to list where one might conclude that duplication or fragmentation existed (vertically) between Federal, State or local agencies or (horizontally) across them, we believe that the concept of "bureaucratic ineffectiveness" is not particularly useful without some kind of pre-established criteria upon which to draw such conclusions. Also complicating the problem is a tendency to confuse governmental "efficiency" with governmental "effectiveness," using private (profit) business principles as the criteria for evaluation. Simply coordinating two (or more) ineffective entities is no guarantee that such action will render them both effective if the defects are basic. Consequently, we recommend considerable caution in seeing duplication, fragmentation and lack of coordination as the source and limits of coastal zone jurisdictional problems.

Further consideration suggests another way of interpreting our bureaucracy. Many of these so-called duplications, etc., represent situations where responsibility is shared between independent agencies. Thus within the context of governmental limits on effective action this serves as a useful check and balance function rather than a case of wasteful duplication. With this different set in mind, the issues of duplication, fragmentation and lack of coordination diminish in relative importance and provide only marginal insight into the real nature of the ineffectiveness of the coastal zone jurisdictional system.

The most serious overall deficit of the existing coastal zone jurisdictional structure appears to be the lack of any vehicle to adequately regulate land use or limit or control development. Although this is a very broad statement the authors feel it is an honest appraisal and one which is well supported by hard facts. It should be noted that in the context in which such a statement is made, it is not at all meant to suggest or imply an inadequacy on the part of local decision-makers per se. *If anything, it is a statement about a much larger system of decision-making in which government, in general, and local government in particular, plays a much smaller role than is popularly held to be true. It is this conceptual gap relating to the illusion or limits of power of government, especially at the local level, to which we will address ourselves in the remainder of this analysis.*

The main reason why government, in general, and local government in particular, plays such a minor role in the development of its own community is the basic

reactive way in which it is required to respond relative to the freedom of private individuals. In the private market place, the reason is basically economics. This situation can more easily be seen if the proposition is reversed. That is, if government were an independent entity and somehow had abundant resources of its own upon which it could draw relative to the private market-place, it could compete in the marketplace and purchase outright all the critical parcels in the coastal zone, or anywhere else, and develop (or not) and manage them for their highest and best public purposes. Obviously, this cannot be done. What is less obvious is the reason why. We believe it is because of the basic subservient role in which government, representing public interests, has been established to play relative to individual private interests. In a sense, the coastal zone land, water and air jurisdictional problems are basically the outcome of the doctrine of laissez-faire which holds government in a subservient or dependent role relative to private interests. Consequently, as implied in the Introduction, it is our view that the entire matter of jurisdictions, regulations, planning and zoning, etc., must be viewed from the vantage point of the severe limits of government rather than seeing government as an omnipresent, all-powerful force simply to be harnessed like a raging river.

Beginning our overview at the municipal level, it can be seen that so-called "planning" supposedly exists side by side with zoning. Yet to begin with, few of the elements in the so-called "plan" are really under the control of the planning body or the municipality itself. Nor does municipal government by itself have sufficient resources to implement its own plan. In reality, then, this relegates most (local) planning to a two dimensional, paper process. Yet even if this were not generally so, the situation is negatively enhanced by the weak link in Connecticut's Statutes between planning and zoning. In short, the plan, if there is one, is simply a guide to which the zoners are not bound.[17] The reality is that due to short-term, self-interested, public pressure (for taxes), zone changes occur more frequently than might be desirable. Consequently, although it is a gross oversimplification to cite the micro-municipal jurisdictional structure as the "cause" of the coastal zone problems it is certainly that substructure, as the major land use controlling device in our jurisdictional model, that deserves the greatest amount of attention in this analysis.[18] Hopefully, by scrutinizing that structure and the outside forces which affect it, many of the answers will be found.

If the situation at the local level is inadequate to achieve long-term public benefits, the situation at the regional level is even worse. In 1961, the state created RPAs to help fill the void created by the dissolution of county government. At the present time, RPAs function in this jurisdictional void exclusively as an advisory body whose advice can be accepted, rejected or modified at the pleasure of any governmental agency, municipal, state, federal, official or otherwise. While "regional planning" in the abstract sense exists, it lacks the two basic fundamental elements even for the type of "paper planning" described at the municipal level. That is, it has no legal enforcement arm nor does it have a broad-based, public tax revenue system on which to draw to pursue the implementation of plans. Since "planning" without implementation is a perversion of the basic planning concept, it is truly a misnomer to call Connecticut's RPAs planning

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[17] Ibid., American Society of Planning Officials, p. 38.

[18] See Footnote #1.

bodies. In fact, they are simply information networks through which data passes and not planning bodies at all. Consequently, whatever limited implementation is possible by local government, such implementation must be completely left up to others at the regional level where the impacts are greater and the long-term stakes even higher. Thus, while municipalities have only limited resources, and therefore limited influence on the implementation of plans, relatively speaking, RPAs have none at all.[19]

What is truly revealing about the fundamental deficiencies of this situation is the scale at which primary planning and zoning takes place. Under Home Rule law each municipality exists as an entity unto itself, duplicating the functions and processes of virtually every other municipality in the provision of land and the provision of services for such things as housing, industry, commercial establishments, highways, and the complex service and facility infrastructure necessary to support such a community.

Pursuing this aspect of the problem in greater detail, one must examine the extent, types, and ranges of jurisdictions of various levels of government and reestablish the rationale for the divisions between them. The phrase most commonly used to express this endeavor is assignment of function. Generally it is used to mean the complex process of determining which kinds of tasks and responsibilities are appropriate to which levels of government.[20] The assignment of function process is usually based on some theoretical principles regarding the kind of function, scale, past performance and political history related to the function and resources of that level of government in general. Typically, conventional wisdom accedes to a higher level of government a function which is deemed to be inadequately carried out at a lower governmental level. Subsequently, since municipalities represent the lowest level of government, there has been a gradual loss of functions carried out by municipal government and their concomitant reassignment to a higher level of government.[21]

Land use planning appears to be the next function to go, and it can be expected that the Federal Coastal Zone Legislation will contribute significantly to this process. Indicative of this trend are the various comprehensive land use legislative packages which have received consideration at the Federal and State levels. Nevertheless, we must ask ourselves, is this what we really want, or need? Isn't there a finite value in having decisions which are of exclusively local impact made by individuals with optimum knowledge of local conditions?[22]

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[19] In considering the value of regional planning agencies in this jurisdictional framework, there is considerable risk of selling them short by not at least acknowledging their review authority/responsibility. In general, reviews are an important means of influencing action. This is particularly true in the case of federal grant programs which require some sort of a regional plan to establish local grant eligibility. Here, if it can be certified that a local project does not conform to the regional plan, it is highly unlikely that such a project will be funded.

[20] See Advisory Committee on Intergovernmental Relations, Governmental Functions and Processes.

[21] Ibid.

[22] Even though this report critically examines the local jurisdictions, this is not in any way meant to imply that the answer "is to throw the baby out with the bathwater."

With respect to the assignment of function issue at the local level vis a vis land use planning, a recently completed study by the American Law Institute has found that 90% of the decisions made by local planning and zoning commissions have impact only in the local community.[23] Consequently, since the ALI equated "impact" with effectiveness and did not question the basic value of local decision-making, "the problem" to which we are actually addressing ourselves in this process if we accept that premise involves a statistical average of a maximum of 10% of all local decisions.[24] With this in mind, it does not seem appropriate to eliminate what is basically considered to be a useful system which we believe adequately functions 90% of the time. Instead, we might better concentrate our efforts on enhancing or (radically) altering the existing jurisdictional system so that it can adequately function to meet the interests which exist beyond any particular jurisdictional boundary. If we can accept the general premise that municipalities are effective jurisdictional land use decision-making bases 90% of the time because the impact of their decisions is limited, then it is crucial to examine the remaining 10% for content. In so doing, it can easily be seen that the assignment of governmental functions process at the macro-level has a theoretical counterpart in a somewhat different form at the micro-level. That is, there is no jurisdictional body at any level with the power to allocate, or assign, land for necessary, but often undesirable, uses.[25]

Power plants and oil refineries are good examples of large scale facilities which at the present time are necessary to sustain our way of life, but because of their scale and popularly perceived indifference to the esthetic and ecological environment are commonly rejected by communities as undesirable. Instead, they are left to the "community of lowest resistance" which usually is a rural community with an inadequately organized citizenry and without access to competent technical staff.

At the present time the coastal zone in Southeastern Connecticut has become the focus of considerable attention as the potential location for an oil refinery. Assuming the developer meets all of the environmental and construction standards, should the municipality in which such a facility is slated for development see such development as desirable, or simply not resist such development, there would be little if anything that the surrounding municipalities could do to influence, prohibit, or otherwise lessen the impact of such development assuming they were concerned. To complicate the matter, there is no existing legal provision for the sharing of tax revenue generated from such a facility even though the ecologi-

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[23] Comment by Dallas Miner, Division Director, Urban Land Institute at DEP Conference Presentation, November, 1974. See also Land Use Reform: Illusion or Reality, ASPO Planning, September, 1974.

[24] It could be argued that this figure is a gross average which represents primarily inland municipalities and that the percentage of decisions which have major impact are considerably higher for coastal towns simply by virtue of their location near an ecologically sensitive area.

[25] New England River Basins Commission, Long Island Sound Study, Chapter 5. See also Planning for Shoreline and Water Uses, p. 2.

cal and social burden of such a development will be broadly "shared."[26]

It is in the siting of these kinds of facilities that "national interest" and "local interests" come to attention and into conflict. As more issues take on a "national interest" character it is more than likely that the number and kinds of conflict will grow. How are these conflicts to be resolved? What on-going jurisdictional system can be devised which minimizes the opportunities for these kinds of conflicts and provides for the amicable resolution of issues through mutual decision-making?

At the present time, no such jurisdictional vehicle exists primarily because its legal existence would (totally) undermine and subvert the principles of Home Rule, of municipal government, and the tax base structure so vital to its survival. We believe the development of any such inter-municipal jurisdictional system for coastal zone management purposes or otherwise will have to have a tax equalization network as a working basis so as not to penalize those municipalities chosen to house vital governmental services or facilities not assessed for tax purposes or those municipalities not chosen to house major tax producing facilities such as power plants.

In reviewing the strengths and limitations of the existing local jurisdictional system, it is important to consider the State and Federal structure relative to what has already been presented.

For the coastal zone, a useful and important distinction between the 3 levels of government can be made with respect to land and air and water use. It is simply that the municipalities have control over the land while the states and the Federal Government control the water and air. In general, the major strength to which we can point at each (higher) level of government is the broad(er) tax revenue system that each has relative to the next lower level. Obviously, the federal system based largely on income is considerably broader and more equitable than our state's system based largely on sales. Yet, regardless of how the revenue is raised, because of the sheer volume of revenue, each has considerably more latitude than municipalities to implement certain kinds of projects. This is an important factor which cannot be overlooked in developing a jurisdictional model.

In addition to the equalizing capacity of each higher level of government is the broad standards-setting power, or perspective that each represents relative to the other. The passage of such major pieces of legislation as the clean air and water pollution control acts underscores such broad capacity not present at the municipal level. Without minimizing the relative significance of such legislation it is nevertheless crucial to keep in mind the distinction between (environmental-type) standards and the extraordinary wide range of land usages that can take place under the umbrella of these standards.

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[26] Note: The criteria for "burden sharing" can be broadly defined in terms of total economic input and output factors generated by such a facility. That is, if all of the potential employees of the new complex live within the municipal boundaries and their children attend schools there, it would be difficult to make a strong case for the facility being a burden to surrounding communities. Conversely, if it can be broadly demonstrated that large facilities generate costs well beyond the municipal boundaries in which they are located, and liabilities are derived therein, then such factors diminish the rationale for maintaining the existing municipal-based property tax system.

A related aspect to the standards setting capacity of these higher levels of government is their ability to categorically restrict the use of certain general types of land. In the coastal zone, tidal marshes and flood plains stand out as meaningful examples of such. The question is, how much land can be taken out of the potentially developable land pool and designated in this fashion without any concomitant local public economic return? Can our present form of public deficit financing through long term bonding continue to bear this kind of burden without breaking the bank?

One additional factor should be mentioned about these higher levels of government. Their ability to carry out functions which require continuous or great detail or sensitivity to local conditions is limited. It is for this fundamentally sound reason that land use planning has remained, and we believe should remain, in the hands of local government.

SUMMARY

The 19th Amendment of the Constitution addresses the issue of the rights of individuals with respect to the taking of land by government. Yet there is another, equally important, inconspicuous side to the taking issue which is not addressed by the Constitution which nevertheless works to influence public decisions made therein. It is not only the potential loss incurred by a private individual but the loss by government itself when it places restrictions on the use or development of land. It is at this point where the abstract, longer-term interests of government are confronted by the real, pragmatic short-term interests of that same body. Consequently, this composite situation renders it impossible to consider changes in jurisdiction for land use planning without also considering concomitant change in the local tax revenue structure and all of the related economic and developmental contingencies that influence this kind of decision-making, regardless of what level of government is responsible for doing so.

As characterized in this paper, the vehicles of planning and zoning as they presently function at the municipal level probably couldn't be any weaker with respect to promoting (non-capital) long-term public interests. Concomitantly, these mechanisms probably couldn't be any stronger in promoting private (capital) interests and still continue to legitimately function under the umbrella of public process.[27] Thus, the illusion of the power of government to solve problems referred to earlier in this paper is clearly related to the greater illusion of these institutions to function at all in the public interest. Since the arena in which most of this takes place is at the municipal level, it can be seen that the principles of home rule are as equally illusory in that they serve to mask the outcomes of so-called public-serving processes. Home rule, then, is simply a universal political vehicle which protects the status quo and allows it to continue to serve predominantly private interests under the more noble guise of public self-determination.

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[27] One could easily postulate that municipal planning and zoning does more to promote private interests than, say, a municipal Chamber of Commerce whose stated objectives are only coincidently in the public interest.

With respect to the coastal zone problem, it can be seen that it is simply one of a number of similar kinds of public-interest problems for which a governmental solution is being sought. This whole process of looking to government to solve problems raises some fundamental questions, the foremost of which is, Can the public interest ever be served under our present form of (democratic)government where the lofty principles of self-determination really mean self-interest and where the interests of the general welfare are perverted through the major public institutions established to promote and protect such interest?[28]

This question is the very essence of any jurisdictional problem and one which is not immediately apparent from a simple compendium of statutes and laws on which such a paper is based.

Thus, it can be seen that by itself this compendium is of limited practical value. Yet in the pursuit of gaining a full appreciation of the problem of uncontrolled development in the coastal zone, its value is significant for two reasons. The first is that it demonstrates the intricate complexity of the jurisdictional systems our society has developed over time to regulate (all kinds of) behavior. The second is that it shows that the answers to the coastal zone problem are not to be found exclusively in jurisdictions and structure but are as much a part of the policies and procedures surrounding the system of private enterprise and public taxation. Thus, jurisdictions are only a small part of this larger process for the myriad reasons discussed in the body of this paper. In short, exploitation of natural resources, of which land represents the most basic commodity, occurs because it must occur. Our system of private profits and public taxes, which operates hand in hand, requires it to do so. Unfortunately, the commodity of land is finite, a fact which is not amenable to the theoretical basis upon which a system is built. Nor is that fact easily susceptible to change simply through the rearrangement of governmental jurisdictions. Consequently, this constitutional-crisis is rapidly becoming our nation's version of the game of Russian roulette where we pit our long-term needs for a healthy natural environment against our short-term needs for a healthy economy. Thus, in the interest of salvaging a piece of the critical natural environment we are herewith involved in partitioning off a small piece of the environment in order to control growth, ostensibly with the (rather mystical) hope that somehow both the public and private economic sectors can withstand the shock. It may not be possible.

Having identified the rather severe limitations of the existing public jurisdictional and decision-making system, we are rapidly approaching the point where the options for meaningful change begin to narrow. The essential question is, how can the chain of events described herein be broken? It must be kept in mind that what may appear rational to a planner may not be so to a politican or a voter. In a free soceity, if nobody cares (enough) about changing environmental or constitutionally-determined jurisdictions, or, if the chain of events actually serves the interests of a powerful political constituency, change will not occur.

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[28] Regulatory agencies, <u>especially</u> at the Federal and State levels are notorious for serving the interests of those whom they are supposedly regulating. The Food and Drug Administration, Public Utilities Commissions and recently the Federal Aviation Administration are just several examples of agencies who have come under intense attack for failing, in the public's eyes, to act in the public interest.

With this in mind, it is not difficult to predict the outcome of a broad range of options tempered by political inertia or compromised through the resistance to (certain kinds of) change.

Assuming some change is to take place, there is a whole bevy of "band-aid" or pragmatic type of approaches available as options. Operationally, these can be characterized as no-change solutions even though considerable effort may be expended in the name of change. This is accomplished through complex recommendations which deal almost exclusively with reorganizing jurisdictional components exclusively with the context of the existing legal and (municipal) tax systems. These approaches are pejoratively characterized as "band-aids" because even though they may suggest what appear to be significant jurisdictional alternations, they continue to perpetuate the problem through the avoidance of consideration of substantive change in those basic legal areas of governmental jurisdiction such as Home Rule, taxation, etc. Often, the result of this kind of approach is a reconstituted decision-making structure which simply shifts responsibility around, usually within the existing parameters of government. A common by-product of the band-aid approach is "red-tape," usually in the form of licenses, permits, environmental impact statements, standards and other negative inducements which attempt to discourage people from following generally undesirable patterns of action.[29]

The second type of approach is characterized as a more "rational" one due to the fact that the problem of coastal zone management is seen in a much broader legal, economic, and social context. This approach may very well recognize the problem of coastal zone management to be representative of general growth problems experienced throughout the country with land use control, public revenue and ecological implications which go well beyond the limited geographical boundaries implied by this project. Although this approach may assume that the problem exists because of some fundamental jurisdictional inadequacy, it basically sees the futility of reconstituting existing jurisdictions within an inadequate legal framework. It thus tries to avoid continuing to negatively influence activity by simply creating more red tape and instead seeks to solve the problem by concentrating its efforts on the factors that influence these land use decisions, in the coastal zone and beyond, regardless of who makes them at whatever level of government. This so called rational approach is considerably more comprehensive than the band-aid or pragmatic approach and recognizes first and foremost that public interest will truly be served in the coastal zone by the development of a cooperative, rather than competitive, system of allocation of natural and man-made resources. This approach might then strive to alter the legal basis of the land use decision-making process and the economic contingencies whereby municipalities are pressured to consume their ecologically valuable natural resources simply to build a strong tax base to support municipal government.

The outcome of this approach may be the creation of a regional or multi-municipal body with the authority to site large scale facilities across municipal boundaries and with the concomitant power to equalize the tax base. This type of approach may opt for the creation of a statewide transfer of development rights system which would enable land development exchanges from outside the coastal zone.[30]

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[29] Blum, Heinrik, Planning for Health, p. 148.

[30] Moore, Audrey, Transferable Development Rights.

A third general type of approach represents a compromise, either in time or content, between the two aforementioned approaches. Although its proponents might recognize the significance of the fundamental relationship between municipal taxation and land use, they might attempt to isolate the change by establishing a special kind of authority within a special coastal zone boundary. This special authority might have a strong review (veto) authority for special large-scale facilities affecting more than one municipality or it might begin by simply creating a tax equalization system between those municipalities in the coastal zone. This might temporarily relieve the pressure on the coastal municipalities which are virtually forced to deal away large chunks of coastal property to survive the tax revenue game.

With respect to these types of approaches, it is perhaps valuable to analyze the range of strategies presented in the Coastal Zone Act itself to determine the extent of potential impact against what has been presented here.

The Coastal Zone Act stipulates that in order for a state to be eligible for ongoing management funds, it must adopt a management plan which contains any one, or a combination, of the following 3 strategies.

1) Complete State takeover of land use decisions in the coastal zone.

2) Establishment of State criteria and standards for local implementation in the coastal zone.

3) State review of all development proposals in the coastal zone with power to disapprove.

The first point to be mentioned is that the broad impact of any of these strategies is highly dependent on the definition of the boundary of the coastal zone, e.g., a major expansion or the contraction of the boundary from some vaguely predetermined boundary (ex. 1,000 feet from high water mark) will play a significant part in determining the impact of the overall process.

With this in mind, we can examine each strategy in some detail. For the myriad reasons given earlier, the authors feel a complete state takeover not only has no advantages, but is actually a regressive step in terms of minimizing public access and maximizing the potential for the exertion of influence by a few powerful interests. In addition, the likelihood continues to exist that a significant number of development decisions, even in a narrowly defined coastal zone, will have a minor impact on coastal ecology. Such a solution would then require the state to carry out, on a day-to-day basis, a jurisdictional function for which it was inadequately equipped a large percentage of the time.

With respect to strategies 2 and 3, the differences between them in gross terms are actually slight. In fact, it is almost impossible to picture one functioning without the other. *In essence, these strategies will not affect existing processes as much as they might potentially affect some outcomes.* The question is, what of any real substance will actually change? While both strategies will require considerably more red tape, neither deals with the fundamental question of land economics discussed herein.

The criticism of strategy #1, state takeover, is essentially the same for #3, state review of all development proposals, because the state will still be

required to carry out a function on a daily basis for which the impact may be critical a small percentage of the time. Additionally, it will more than double, and possibly triple, the amount of work necessary to carry out such a function. At the same time, while compounding the potential for duplication of effort, such a strategy creates unlimited potential for conflict between the two levels of jurisdiction without providing a conspicuous vehicle for resolution.

While strategy #2, state establishment of criteria and standards, could mean many things, the key is that in order for such a strategy to be effective:

a) There is a considerable lead-in time necessary for the development of such standards and criteria in addition to which they would most likely have to be derived from a comprehensive plan in order to be meaningful.

b) Such a strategy would require a concomitant policing-device in order to see that the standards, etc., were being applied consistently, equitably and across the board.

In short, the range of jurisdictional options proposed by the Coastal Zone Act itself are curiously narrow and, as such, seem to "contain the seeds of its own destruction" or failure as the case may be.

What then can be said about the jurisdictional strategies presented in the Long Island Sound Study relative to the above? In order to better understand (the limits of) the LISS recommendations, it is necessary to appreciate the political and technical atmosphere in which such a process took place. The first factor affecting the recommendations is that the major part of the technical staff work was carried out not by an independent agency but by various Federal agencies with a considerably large stake in the outcome of the study's recommendations. The second factor is that the study was concerned with reconciling multiple and complex jurisdictions including two at the state level, between Connecticut and New York, a number between each state and its municipalities, in addition to those jurisdictions and the Federal Government.

The third factor which we believe influenced the outcome of the study is that the staff recommendations went through an intensive review process by the public prior to publication. Unfortunately, the resultant printed recommendations represent a series of complex compromises between technical and political factors which have been incorporated together in such a way that it is difficult to distinguish between the two. The net result is that the report lacks a consistent technical integrity while the character of certain recommendations is vague with respect to their purpose and intended outcome.

In greater detail, the LISS considers two separate jurisdictional models: one interim, and one long term. The interim strategy calls for a vehicle to review major public or private development proposals, although how a major proposal is distinguished from a minor one is not specified. Several alternative structures are considered for carrying out the interim phase, none of which is significantly different from another.

For the longer term, the main options considered by the study were limited to the same range of strategies presented in the Coastal Zone Management Act with two minor exceptions. The first is a "bi-state compact" model which attempts to develop a single management structure between New York and Connecticut. The

second is what is called a "mixed management model" that is essentially a state takeover.

As implied earlier, none of the LISS jurisdictional recommendations even considers the relationship between land use, jurisdictions, and economics. Consequently, with a considerable amount of verbiage, each has the unmistakable character of the "band-aid," pragmatic type of approach and neither structure will be capable of implementing their respective goals and objectives.

Whatever set of options is eventually chosen, we believe that it is really only against this broad background that a meaningful analysis of the existing functions and jurisdictions in the coastal zone can take place. Anything less is misleading in that it suggests that the problem of coastal zone management is exclusively one of jurisdictional structure. In fact, we have found that the problem is considerably broader and involves complex economic processes outside the scope of public jurisdictions as well as some illusions about government itself. The purpose of this paper, then, was to enable the reader to better distinguish between these myriad factors and to evaluate the jurisdictional aspects of coastal zone management against this broader background.

CONCLUSION

Although it was not the expressed purpose of this document to make specific jurisdictional recommendations, with the recent publication of the Long Island Sound Study and considerable attention being drawn to coastal problems due to the potential siting of a large oil refinery, certain jurisdictional changes appear almost self-evident.

In order to maintain some kind of moral and intellectual (technical) integrity of our own in this pilot study, it is both necessary and desirable to separate that which is "politically feasible" (pragmatic) from that which is technically "desirable" (rational) so that in the ensuing political process there are no illusions as to what tradeoffs are being made, or why, or at whose expense.

To do this technically, we believe it is necessary to consider a model which sees the public interests as embodied in the land use decision-making process at the local level become separate from local, private land use economics and the property tax base. The most direct and "simple" way of conceptualizing and accomplishing this is to develop a public revenue system which completely abandons the property tax as a vehicle for raising local taxes. As a substitute, there could be a combination state income and sales tax, a portion of which would then revert to the municipalities on a per capita, or other formula, basis. More important, such a tax system would allow local land use decision-making to continue yet would effectively divorce it from direct, conspicuous, local economic considerations. This would begin to free local decision-makers to make long-term land use decisions rather than short-term economic decisions and would avoid the more regressive approach of passing such a function onto a higher level of government.

A somewhat less direct approach would be to maintain the property tax but

impose it on a statewide, rather than local, basis. As we see it, the time is fast approaching when municipalities are going to be faced with the "choice" of giving up local jurisdictional autonomy in land use decision-making or giving up the local property tax prerogative and moving towards a system of tax equalization. As we have tried to suggest throughout this paper, by far and away the best alternative, both technically and politically, is to change the tax system. We believe this will truly strengthen, not weaken, Home Rule and begin to make attempts toward the management of the coastal zone a realistic and worthwhile proposition.

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COMPENDIUM OF STATE STATUTES

WITH POTENTIAL IMPLICATIONS IN THE DEVELOPMENT OF A COASTAL ZONE MANAGEMENT PROGRAM

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
139 Boswell Avenue, Norwich, Connecticut 06360

January, 1975

INTRODUCTION

This paper was prepared by the staff of the Southeastern Connecticut Regional Planning Agency (SCRPA) under a special pilot study grant from the Connecticut Department of Environmental Protection (DEP). The overall objective of the pilot study is the development of recommendations by which local government and regional planning agencies can more effectively be involved in the coastal zone management process using that area bordering Long Island Sound and the Thames River Estuary in the region known as Southeastern Connecticut as the study area. Hopefully, the recommendations regarding these governmental relationships will be applicable in other areas of the state.

The first paper published under this pilot study addressed itself to the issue of choosing a method for establishing a land boundary for the coastal zone. In addition to the analysis of various boundary-determining methods, the paper provided a vehicle for identifying a number of central issues related to the creation of a special coastal zone management system.

In the development of a coastal zone management system, it is at once apparent that such a process cannot take place in isolation but must develop as a function of the existing system of regulatory, advisory and legal authorities which influence the conservation and development of the coastal zone. Consequently, the purpose of this compendium is to present a picture of the legal environment in which the new coastal zone management system is to develop.

This compendium, then, is intended to function as a supplement to the third paper published under this project entitled An Overview of the Jurisdictional Problem in the Development of a Coastal Zone Management System.

The compendium is divided into three main sections. The first and major section is a composite of individual laws taken from Connecticut's General Statutes which were felt to be relevant to the development and operation of a coastal zone management program.

The second section lists, and provides a brief description of the role of, various Federal agencies with potential jurisdiction in a coastal zone.

The third section lists various municipal agencies in the nine coastal towns in Southeastern Connecticut which would have varying degrees of jurisdiction in the Southeastern Connecticut coastal zone. The inclusion of such information in this compendium was intended to supplement the two aforementioned sections in general by suggesting that development of a Coastal Zone Management Program would have to recognize the influence of a wide variety and number of local agencies.

TITLES OF MAJOR SECTIONS IN CONNECTICUT GENERAL STATUTES

Note: * indicates sections included in this compendium.

1. Provisions of General Application
2. General Assembly and Legislative Agencies
3. State Elective Officers
*4. Management of State Agencies
5. State Employees
6. Counties and County Officers
*7. Municipalities
*8. Zoning, Planning, Housing and Community Affairs
9. Elections
10. Education
11. Libraries
12. Taxation
13. Highways and Bridges, 13(a) Same, 13(b) State Transportation Act
14. Motor Vehicles, Use of Highway by Vehicles, Gasoline
*15. Navigation and Aeronautics
*16. Public Service Companies
*17. Human and Reformatory Agencies and Institutions
18. Correctional Institutions and the Department of Corrections.
*19. Public Health and Safety
20. Examining Boards and Professional Licenses
*21. Licenses
*22. Agriculture, Domestic Animals 22(a) Environmental Protection
*23. Parks, Forests and Public Shade Trees
24. State Geological and Natural History Survey, Weather Control Board
*25. Water Resources, Flood and Erosion Control
*26. Fisheries and Game
27. Armed Forces and Veterans
28. Civil Defense
*29. State Police
*30. Intoxicating Liquors
*31. Labor

Connecticut General Statutes, continued

*32. Connecticut Development Commission
Connecticut Research Commission
Connecticut Product Development Corporation
33. Corporations
34. Limited Partnerships, Partnerships and Professional Associations
35. Trade Regulation, Trademarks and Collective and Certification Marks
36. Banking Law
37. Interest
38. Insurance
39. Negotiable Instruments
40. Warehouses and Warehouse Receipts, Trust Receipts
41. Bills of Lading
42. Sales and Collections 42(a) Uniform Commercial Code
43. Weights and Measures
44. Hotel and Inn Receipts
45. Probate Courts and Procedure
46. Husband and Wife
*47. Land and Land Titles
*48. Eminent Domain
*49. Mortgages and Liens
50. Lost and Unclaimed Property
51. Courts
52. Civil Actions
53. Crimes 53(a) Penal Code
54. Criminal Procedure
55. Concluding Provisions

4-128(a)	Provides for the lease of State-owned land to private developers with the provision of lease back to the state with an option to buy.
4-142	Establishes a commission which deals outside of the judiciary with claims by individuals who have suffered damages because of defective conditions of grounds or buildings owned by the state.
4-166	Uniform Administrative Procedure Act. Provides that all state agencies adopt rules and regulations establishing the nature and requirements of all formal procedures.
7-65	Provides for a burial permit issued by the registrar of vital statistics.
7-67	Makes provision for a permit for disinterment.
7-114, 7-115	Provides for the renewal of boundaries between municipalities and makes provision for the resolution of boundary disputes and the establishment of suitable monuments to mark boundaries.
7-128	Makes provision for the improvement of any lands owned by the municipality or for the purchase of land to be used for a public square, common or park.
7-130	Makes provision for the creation of public recreation authorities between or of municipalities.
7-130(d)	Provides for the creation of a recreation commission with broad authority and powers to develop land under its control. It can also issue bonds and charge rents or fees.
7-130(o)	Provides the recreation commission with municipal powers to aid in the acquisition of land.
7-131	Provides for the creation of municipal forests and a municipal forest commission.
7-131(a)	Provides for the creation of a municipal conservation commission for the regulation of natural resources. Commission may recommend to the planning commission on uses of open spaces such as swamps, wetlands and marshes.
7-131(c)	Makes extensive provisions for the acquisition of open space providing state and federal grants for such acquisition or improvement. Also stipulates limitations on use of land acquired for such and supported by state funds (7-131(i)). Also makes counter-provisions for land taken.
7-131(l)	Makes provision for the development of watershed areas for recreation and fish and wildlife sites.

7-136	Makes provision for the creation of municipal economic development commissions for the development and promotion of the economic resources of the municipality. The Commission shall make recommendations to appropriate agencies regarding action to improve its economic condition.
7-137	Provides for the creation of Regional Economic Development Commissions between two or more municipalities. (b) Provides for the establishment of industrial parks. (c) Extension of water mains used for industrial or commercial purposes.
7-138	Refers to assessment of railroad property for municipal improvements.
7-146	Provides for the clearance of waterways of any material which might prevent free discharge of flood waters.
7-147	Prohibits obstructions in waterways beyond established points (lines) unless permission is granted by the municipality - also provides for the joint establishment of common lines between adjoining municipalities.
7-147(a) (d)	Provides for the creation of historic districts. Provides for the issuance of a certificate of appropriateness regulating the demolition, erection, alteration of historic structures.
7-153	Provides municipalities justification to restrict residential development unless sewerage facilities have been approved.
7-156	Provides for the establishment of public markets on any highway. Also provides for the erection of structures to house same.
7-160	Regulates the refining of oil to the municipality.
7-161	Provides for the transportation and treatment of solid waste.
7-188	Home Rule Ordinance. Gives power to municipalities to draft or revise the town charter which supercedes existing or prior authority to become the "organic law" of the municipality.
7-194	Lists the extensive powers of municipalities.
7-195	Provides for the consolidation of municipal governments within town boundaries.
7-203	Creates municipal parking authorities with powers to acquire land and build off-street parking.
7-213	Municipal Gas and Electric Plants.
7-234	Municipal Waterworks System. Enabling legislation which makes provisions for ownership and operation of water supply systems by municipalities.

7-245	Municipal Sewerage System. Enabling legislation which makes provisions for ownership and operation of sewerage systems.
7-273(b)	Transit Districts. Enabling legislation permitting the establishment of transit districts for the improvement of transportation of people and goods within and between the metropolitan areas of the state.
(d)	Provides for the assumption of public utilities powers by the transit district.
(c)	Gives broad powers to district of eminent domain to acquire land or other commodities necessary to establish a system.
7-274	Police protection enabling legislation.
7-301	Fire protection.
7-324	Fire, Sewer and Other Districts. Enabling legislation for the creation of special purpose service districts with a municipal boundary (except a school district) with taxing power.
7-329(a)	Makes provision for the establishment of a port district and authority - includes wharfs, docks, piers, air or bus terminals, railroad tracks or terminals, etc.
(d)	Gives regulatory authority to the authority.
(f)	Gives authority the right to acquire property by condemnation.
7-339	Makes provision for interlocal agreements for the provision of various municipal services. Note: This statute provides the existing legal basis for the development of some kind of a vehicle for the provision of a service, monitoring or planning activity for a special district called a coastal zone.
7-350-400	Concern themselves with various aspects of municipal financing.
7-450-479	Concern themselves with municipal employees.
8-1	Creates local zoning commissions and the geographical limits of their jurisdiction.
8-2	Stipulates what aspects of the physical environment zoning commissions are empowered to regulate.
8-4	Provides for the designation of a combined planning and zoning commission.
8-5	Establishes a zoning board of appeals in each municipality in which there is a zoning board.
8-12	Stipulates procedures when regulations are violated.
8-13(6)	Planned Unit Development. Series of statutes makes provision for the adoption of PUD by municipalities as a supplement to the zoning ordinances.

8-18	Municipal Planning Commission. Statutes enabling the creation of municipal planning commissions.
8-23	Call for a plan of development, prepared and adopted by the commission.
8-24	Stipulates the extensive limits of jurisdiction of a planning commission with respect to development of land, buildings.
8-25	Makes provision for land subdivision and approval by the planning commission. Also stipulates requirements for subdivision regulations as a guide for the subdividing of lands.
8-26(b)	Makes provision for an RPA review of a subdivision plan abutting two or more municipalities.
8-31(a)	Deals with the formation of Regional Planning Agencies.
8-35(a)	Stipulates the requirement that each RPA have a plan of development for the region.
8-35(b), (c), (d)	Stipulates limit of RPA jurisdiction as advisory to municipalities.
8-37(c)	New England Interstate Planning Compact. Creates the New England Interstate Planning Commission and stipulates that it is to be a cooperative voluntary endeavor between the participating states in an effort to coordinate and resolve conflict and maximize use of resources.
8-40	Creates municipal housing authorities to deal with the shortage of low and moderate income houses and clearance of slums through the creation of public housing projects.
8-44	Provides broad power to the housing authority enabling it to exercise the provisions of 8-40 including eminent domain (8-50).
8-51	Makes housing authority subject to planning and zoning sanitary and building codes and all other ordinances in which the project is located.
8-105	Housing for military personnel and defense workers enables housing authorities to undertake housing projects for military personnel.
8-112	Elderly Housing. Makes provision for elderly housing under a properly designated housing authority.
8-120	Stipulates state powers with respect to housing projects. Gives authority to the public works commissioner to carry out the provisions of the act. (See 8-206(a).)
8-124	Series of statutes concerned with the designation of an area for redevelopment and the establishment of procedures for accomplishing such.

8-141	Makes provisions for a redevelopment agency to undertake an urban renewal project.
8-146	Makes special provisions for grants under the redevelopment act for flood prone areas.
8-151	Series of statutes stipulating conditions for extensive state aid for urban renewal and redevelopment projects.
8-161	Authorizes the Connecticut Development Commission to assist municipalities in preparing a capital improvement program.
8-163	Adopts provisions to acquire federal aid under the economic development act.
8-186	Provides that any municipality with a planning commission can create an economic development commission.
8-190	Stipulates that the Connecticut Development Commission may make state grants to municipalities for planning development projects.
8-206(a)	Transfers all powers and duties of public works commissioner to commissioner of community affairs. Also notes that Commissioner of Community Affairs is the Connecticut Development Commission.
8-214	Provides for state financial assistance for housing site development to any properly designated housing authority.
8-217	Establishes Community Housing Development Corporations who, on a non-profit basis, shall work to construct or rehabilitate housing units.
15-1	Makes provision for the appointment of harbor masters by the Governor in the Towns of New London, Norwich, and Stonington. Harbor masters have jurisdiction over the harbors subject to the direction and control of the Commissioner of Transportation.
15-9	Harbor Master may cause any vessel to be moved or removed which is blocking access to and from or within the harbor.
15-11	Provides the right to dig channels from wharves by owners of such wharves to the main channel to have free access.
15-12	Charges the selectman with the right to remove obstacles which block access from beaches or navigable water to which the public has a right of access.
15-15	Stipulates requirements for a licensed pilot to be on board large vessels operating within territorial waters. Pilot licenses are issued by the Commissioner of DEP (15-13).
15-18	Prohibits throwing furnace refuse into harbor. Prohibits injuring of buoys.

15-32 Provides unlimited access to any land for the purposes of conducting coastal survey.

15-38 Places police and licensing authority for aeronautics under the Commissioner of Transportation.

15-73 Authorizes the Commissioner of Transportation or municipalities in the case of municipal airports to acquire land or easement for airport purposes and easements over land or water. Statute also restricts the construction of any object which would encroach upon airport protection privileges.

15-74(b) Establishes a "clean zone" one-half mile from any runway within which no utility company shall erect overhead lines.

15-90 Authorizes the creation of an airport approach plan by the Commissioner of Transportation.

15-91 Requires the adoption of airport zoning in municipalities in the path of airport approaches. Regulations are to include such things as building heights, tree heights and other aspects potentially hazardous to aircraft.

15-92 Authorizes the creation of joint airport zoning boards between municipalities with the power to adopt, administer and enforce airport zoning regulations.

15-93 Authorizes the establishment of a permit system within airport zones for both new construction and alteration of existing non-conforming uses.

15-121 Gives authority to the Commissioner of Environmental Protection for all rules and regulations related to boating and he shall have jurisdiction over all waters of the state subject to the authority of the United States with respect to navigable waters.

Statute also provides for the establishment of regulations pertaining to restricted zones (sea lanes) within navigable waters for the purpose of protecting the natural ecology of the water. Regulations shall also deal with transportation of hazardous materials (oil).

Statute also makes provision for the reporting of accidents to the U.S. Coast Guard.

15-136 Provides that any town may make local ordinances respecting the operation of vessles on any body of water within its territorial limits but the Commission of DEP may disapprove such ordinances as he considers unreasonable.

15-140 Written permission must be obtained from the Commissioner of DEP for sail boat or other races. Seasonal permits may be issued for races held on state waters.

15-154(a) Calls for the appointment of municipal marine officers to enforce the provisions of this chapter of the statutes.

15-155	Fees collected may be used to reimburse municipalities for administrative or other expenses incurred in the preceding year. The remainder of the funds can be used as grants to municipalities for the construction, maintenance or improvement of boating facilities.
16-2	Establishes a 3 member public utilities commission whose members shall be appointed by the Governor. As provided for in Section 16-1, the commission has the power to grant franchises to utility companies who provide a public service.
16-15	Requires immediate compliance of orders by a service company to the PUC.
16-32	Requires annual audits for utilities companies except those subject to the jurisdiction of the interstate commerce commission (railroads, telegraph, and express companies).
16-48	Empowers the PUC to enter into a compact with any of the surrounding states establishing joint regulation and control of rates of electricity and gas transmitted between such states.
16-50(g)-(w)	Public Utility Environmental Standards Act...is intended to provide orderly processes for balancing the need for adequate and reliable public utility services with the need to protect the environment and the ecology of the state and to minimize damage to scenic historic and recreational values, to provide environmental quality standards and criteria for the location design construction and operation of facilities...to be at least as stringent as the Federal Environmental quality standards and criteria.
16-50(j)	Creates a Power Facility Environmental Council.
(k)	Provides for the issuance of a certificate of environmental compatability prior to site preparation.
(l)	Environmental impact statement required.
16-79	Location and construction of railroads subject to the approval of the PUC, provides that railroad companies may take as much land as is necessary.
16-134	Makes provision for the PUC to authorize a change of canals or watercourses for the convenience of the construction of a railroad.
16-178	Provides that the state forest warden can authorize a railroad company to clean an area 100' on either side of the tracks of inflammable material on unimproved land.
16-250	Telephone companies must apply to the PUC for a certificate of public convenience.
16-263	Authorizes gas companies to condemn such land as is needed to run pipelines or construct facilities. Note: Certificate of public convenience is issued under the Federal Natural Gas Act.

16-292 Authorizes the PUC to issue permits for motor contract carriers.

16-298 Requires a permit from PUC for interstate motor carriers as well as from the Interstate Commerce Commission. The Commissioner of Transportation is charged with making recommendations to the PUC on routes and terminals.

16-299 Intrastate motor common carriers are required to have permits from the PUC.

16-304 Jurisdiction of the PUC with respect to motor carriers. The Commission is authorized to prescribe and establish such reasonable regulations as it deems necessary with respect to rates and charges, issuance of certificates or permits, classification of carriers, abandonment or suspension of service routes, speed, adequacy of service, financial responsibility, insurance covering personal injury, property damage and cargo uniform system of accounts records, reports safety of operation and equipment and the public convenience and safety.

16-309 Requires a certificate of public convenience for motor buses from the PUC.

16-314 Operation of interstate motor buses requires a PUC permit. The Commissioner of Transportation may comment on the issuance of any such permits.

16-320 Certificate of Public Convenience required for operation of taxicabs.

16-331 Cable TV construction also requires a certificate of public convenience from the PUC.

16-330 Creates the Connecticut Transportation Authority which is authorized to issue bonds for the acquisition, construction, operation, maintenance, rehabilitation, or improvement of any equipment or property.

16-338(f) Creates a public service tax fund from taxes collected from fares from motor or rail service. Monies are to amortize bonds.

16-339 Creates a Tri-State Regional Planning Compact between the states of New Jersey, New York and Connecticut for the purposes of continuing transportation, housing and related land use planning and studies. Note: New London County is not now in the Tri-State Compact Region although the legislation stipulates that the area may be enlarged or reduced by legislation hereafter enacted.

16-341 Stipulates that the existence of the Tri-State Commission does not diminish any existing state or local powers including planning or zoning.

16-343 Creates a Connecticut-New York Railroad Transportation Compact which provides for the continuation and improvement of essential interstate railroad passenger service.

16-344 Makes mass transportation and rail service operated under the Con-

necticut transportation authority or the Connecticut-New York Railroad Compact exempt from state regulation.

17-2(h) Authorizes the welfare commissioner to obtain real property by purchase or lease to be used as temporary dwellings for dispossessed tenants.

17-48 Provides for the licensing of child-care facilities by the Commissioner of Welfare.

17-227 Provides for the licensing of institutions for the care of the mentally ill by the Department of Mental Health.

19-4 Gives the Commissioner of the Department of Health authority over all local directors of health.

19-4(g) Provides for licensing of residential facilities for the mentally retarded by the Department of Health.

19-13 Authorizes the establishment of a Public Health Code to cover such things as the installation of drainage and toilet systems in any residence, regulation of water supply wells and springs (19-13(a)) and flouridation of public water supply (19-136).

19-24 Provides for the regulation of radioactive materials and registration of Xray devices (19-25(a)). These regulations are to be based on those developed by the Atomic Energy Commission.

19-25(d) Gives responsibility for supervising use of ionizing radiation to the Commissioner of DEP.

19-25(j) Creates a New England Compact on Radiological Health Protection Mutual and compact between any of the states in Region 1 to cope with a radiological incident.

19-32 Provides for the licensing of such institutions as hospitals, home for the aged, nursing homes, rest homes, and infirmaries in either an industrial, educational, or municipal setting by the Health Department.

19-43(e) Requires license for a child day care center by the Health Department.

19-43(g) Directs the Commissioner of Health to utilize consultative services on welfare, mental health, and education departments, as well as municipal building fire and health departments in the licensing of day care centers.

19-50 Authorizes the Director of Health to take action to eliminate mosquito breeding places. It further authorizes the Commissioner or his agent to enter upon any swamp or marshland and after surveying it to drain, fill, make any excavation or structure necessary to eliminate mosquito breeding.

19-51 Stipulates continuing responsibility for the maintenance and upkeep

	of such swamp or marsh, drained, filled, or otherwise altered by the Commissioner of Health.
19-53	Provides for the inspection of shellfish beds by the State Health Department and all implements (boats, tools) associated with such. Certificate issued under this statute may be revoked.
19-56	Authorizes the State Department of Health to cordon off coastal waters by posting them as contaminated for the taking of shellfish.
19-75	Authorizes the appointment of municipal health directors whose duty is to enforce the public health code (19-80).
19-86	Authorizes local health directors to abate nuisances arising from swamps or wetlands and may cause such places to be drained or filled.
19-98	Prohibits the processing of fish (menhaden) for oil or animal consumption in the Towns of Stonington, East Lyme, Old Lyme, and Waterford.
19-101	Stipulates that the local Director of Health may place limits on the anchorage of houseboats within navigable waters, outside the channel and adjacent to any public or private bathing beach.
19-146	Towns and ecclesiastical society may procure and hold lands for burial grounds.
19-193(b)	Authorizes the Commissione of Consumer Protection to issue an operator's license for a vending machine.
19-270	Commissioner of Consumer Protection to issue licenses for the business of bottling water and other beverages.
19-284	Stipulates the licensing of bakeries by Consumer Protection Commissioner.
19-300	Places the regulation of pesticides use under the jurisdiction of the Commissioner of Environmental Protection.
19-310	Prohibits nuisances on highways.
19-311	Prohibits obstruction of watercourse by daming or other measures.
19-313	Prohibits obstruction of navigable waters.
19-344	Gives the local director of health authority to force the correction of any environmental or structural situation such as plumbing, sewerage drainage lighting paint or ventilation that is dangerous or detrimental to health.
19-379	Authorizes Selectman or his designated authority to inspect buildings with respect to its safety and may require such action as necessary to correct the situation.

19-395	Provides for a state building inspector within the public works department who shall promulgate and administer a state building code for the purpose of regulating the design, construction and use of all buildings and the alteration of existing buildings.
19-396	Calls for the Selectman to appoint a municipal building official to administer the state code.
19-403	Establishes a state commission on demolition with the responsibility to prescribe such regulations as may be necessary to insure public safety.
19-403(g)	Requires a demolition permit from a municipal administrative officer.
19-409	Calls for the State Planning Council to coordinate all atomic energy development activities in the state.
19-411	Authorizes the Commissioner of Labor to regulate the registration and inspection of all elevators.
19-435	Labor Commissioner is authorized to inspect steam boilers of certain specs.
19-507	Directs the Commissioner of DEP to initiate and supervise programs to determine the cause, effects and hazards of air pollution and adopt and enforce regulations.
19-507(a)	Calls for cooperation between Community Affairs and Transportation Commissioners and the chairman of the Connecticut Development Commission with the Commissioner of DEP for the location of highways for industrial development.
19-508	Calls for the Commissioner of DEP to issue permits for new air contaminant services.
19-520(a)	Provides for the establishment of municipal districts for the control of air pollution with the provision that the district may adopt its own ordinances and/or regulations.
19-523	Creates a Mid Atlantic States Air Pollution Control Commission with the responsibility of developing air quality and emission control standards for regional airsheds which cut across state boundaries. Note: The character of this interstate compact is different than all the others thus far reviewed in that there is the suggestion that the interstate commission has a status above and beyond each of the participating states. This is especially apparent in its regulating function for air pollution control standards as they relate to EPA and Connecticut's DEP role in establishing and implementing similar standards.
19-524(b)	Requires that all new solid waste facility designs be approved by DEP.
19-524(c)	Charges the Commissioner of DEP with the promulgation of regulations covering solid waste management.

19-524(e)	Stipulates the development of solid waste management plans with the responsibility for such split between individual municipalities and RPAs. Note: Subsequent legislation has made it a requirement that local municipalities develop solid waste management plans. At the present time the deadline for such has been extended and little if any effort appears to be being exerted toward the development of such plans. Note #2: Successive sections of this statute provide state grants for the development and improvement of solid waste facilities.
19-540	Requires a license of the Health Department to operate a youth camp.
19-550	Requires a license from a local police chief or selectman for mass gatherings or assemblies to cover such things as a Rose Arts Festival to a war demonstration.
21-16	License required for motor vehicle junk yard from Commissioner of Motor Vehicles following the receipt of a certificate of approval issued by the selectman or zoning board of appeals.
21-48	Requires a license for lodging house from a selectman
21-49	Requires a license to erect signs from the Commissioner of Transportation.
21-58	Prohibits locations of signs in specially designated areas.
21-65	Requires a license for a mobile home park from the Connecticut Real Estate Commission.
27-45	Authorizes the state to take any land (by eminent domain) deemed necessary for the construction of a state armory.
27-104	Establishes a Veterans Home and Hospital Care Commission.
29-39	Designates the Commissioner of State Police as the state fire marshall.
29-40	Provides that the state fire marshall shall adopt a fire safety code.
22-62 to 22-78	Provides for the establishment of a regional marketing authority with broad powers for taking land and buildings by purchase or condemnation and to issue regulations concerning the development of marketing facilities.
22-128 to 22-265	Provides for the regulation of milk and milk by-products.
22-278 to 22-409	Provides regulations for the control of diseases and licensing for domestic farm animals, livestock and domestic animals.
22 A-1	Policy of State stipulates: "Air, water, land and natural resources, taken for granted since the settlement of the state are now recognized as finite and precious.

"...Human activity must be guided by and in harmony with the system of relationships among the elements of nature.

"The policy of Connecticut is to conserve, improve and protect its natural resources...and to manage the basic resources of air, land and water...in order to enhance the health, safety and welfare of the people."

22 A-2 — The Department of Environmental Protection shall have jurisdiction over all matters related to the preservation and protection of the air, water and other natural resources of the state.

22 A-6 — Charges the Department of Environmental Protection with the creation of standards, criteria and regulation and makes provisions for hearings and investigations of complaints.

22 A-8 — Makes provision for the creation of a statewide environmental plan for the management and protection of the quality of the environment and the natural resources of the state.

22 A-14 to 22 A-20 — The Environmental Protection Act of 1971 makes broad provisions for the protection of the environment through administrative procedures and court action.

22 A-28 — Provides for the preservation of tidal wetlands and acknowledges their value and cumulative loss through dredging, dumping, filling. ..."loss or despoliation will...disturb the natural ability of tidal wetlands to reduce flood damage and...will reduce the capacity of such wetlands to absorb silt and will thus result in the increased silting of channels and harbor areas to the detriment of free navigation."

22 A-29 — Specifies regulated activity such as draining, dredging, excavation or removal of soil, mud, sand, gravel, aggregate of any kind and the erection of structures and driving of pilings.

22 A-32 — Provides for the issuance of a permit for such activity as mentioned above.

22 A-36 to 22 A-45 — Establishes the Inland Wetlands and Water Courses Act which essentially has the same findings and concerns as the tidal marshes act with respect to ecological value and cumulative destruction. Use of the phrase "protection from unnecessary disturbance or destruction" suggests awareness that activities beyond the immediate geographical proximity need attention and regulation as well as direct assaults such as filling and draining.

23-1 to 23-27 — Stipulates powers of the Commissioner of DEP to establish natural area preserves, acquire open spaces for recreation and regulate activities therein (23-9).

23-34 — Gives state fire warden the status of prosecuting attorney concerning the preservation of forest and timberland.

23-43 — Stipulates liability of railroads for damages done by sparks.

23-45	Creates a mutual-aid compact between the Northeastern States to promote the prevention and control of forest fires. Establishes a central coordinating agency called the Northeast Interstate Forest Fire Protection Compact.
23-59	Outlines the limits of responsibility of the wardens for the care and control of public shade trees.
23-66	Provides for the preservation of the Appalachian Trail through acquisition of land and other means.
25-3(d)	Provides, subject to the issuance of a permit from the Corps of Engineers, that the Commissioner of DEP may designate and lay out channels in lands under tidal or coastal waters for the purposes of access to uplands from deep water.
25-4(a)	Provides for the establishment of stream channel encroachment lines along any waterway or flood prone area beyond which no obstruction shall occur.
25-4(d)	Provides for the taking of such structures which exist as nonconforming uses for flood and erosion control.
25-5(b)	Provides for a long-range plan for the management of water resources.
25-5(c)	Provides grants for planning water and sewer facilities to RPAs.
25-7(b)	Provides regulatory authority to the Commissioner of DEP for the erection of structures in tidal, coastal or other navigable waters. The law specifically mentions "the use and development of adjoining uplands in conjunction with this authority."
25-7(d)	Provides for the issuance of a permit.
25-8(a)	Commissioner of DEP is authorized to permit the diversion of river waters to any body authorized by law to supply pure water for public use.
25-10 - 25-11	Provides for the issuance of a permit for removal of sand and gravel from lands under tidal or coastal waters.
25-14	Similar in content to 25-3(d) above.
25-26	Prohibits the discharge of sewage into any waters of the state. DEP Commissioner is charged with the responsibility to investigate any outfalls which may either directly or indirectly result in pollution of state waters.
25-32	States that the Commissioner of Health shall have jurisdiction over all matters concerning the purity and adequacy of any source of water or ice supply.
25-40	Authorizes local health officers to be responsible for the analysis of the purity of local water supplies.

25-41 Prohibits the location of cemeteries to within one half mile of reservoirs, and vice versa.

25-52 Prohibits cemeteries to within 600 feet of an ice pond.

25-42 Provides power to bodies authorized by law to supply water for public use to take such land,streams or ponds as deemed necessary for preserving the purity of the water.

25-43 Prohibits bathing in reservoirs.

25-45 Makes provision for municipalities to adopt ordinances concerning reservoirs.

25-46 Authorizes the State Health Department to incorporate into the state health code regulations affecting the purity of interstate waters used for drinking.

25-54 (a)-(z) Water pollution control. Comprehensive water pollution control legislation providing the Commissioner of DEP with broad water pollution abatement control powers, standards setting of water quality, and permit issuance authority for any new discharges. Legislation also provides state grants for storm and sanitary sewer separation and pollution treatment facilities. Legislation also provides for bonding of an oil carrier.

25-55 Provides for the creation of an Interstate Sanitation Commission between New York, New Jersey, and Connecticut. The Commission is a voluntary, cooperative arrangement intended to reduce pollution in coastal waters. Act establishes two classes (A) and (B), of waters and sets discharge standards for dumping of wastes into such waters.

Area of jurisdiction limited beyond New Haven on the East Side. Commission is also authorized to investigate air pollution matters.

25-67 Creates the New England Interstate Water Pollution Control Commission which will work to establish programs of treatment of sewage and industrial waste which will meet standards established by the Commission for classified waters.

The Act makes provision for the training of personnel.

25-69 and 25-75 Flood control and beach erosion. Provides a vehicle for the construction and payment of protective works by the Commissioner of DEP (25-71) in tidal areas subject to the full force of storms.

25-84 Provides for the creation of Municipal Flood and Erosion Control Boards with the power to construct and maintain flood and/or erosion control systems. Such a Board is authorized to take property for such use when deemed necessary.

Such a system must be approved by the Commissioner of DEP.

25-101 Creates an interstate compact between Connecticut and Massachusetts which provides that the Commission shall make...such studies as it

may seem necessary in cooperation with the Corps of Engineers... and other federal agencies for the development of a comprehensive plan for flood control and for utilization of the water resources of the Thames River.

25-103 to 25-109 — Outlines the duties and responsibilities of the Commissioner of DEP with respect to soil conservation. Of special note is Section 25-108 which gives the Commissioner broad powers to acquire land for watershed soil conservation flood prevention and conservation programs.

25-110 to 25-119 — Provide broad certification, permit issuance and inspection power to the Commissioner of DEP relative to the construction of dams, dykes and reservoirs.

25-120 — Creates the Northeastern Resources Commission whose purposes are to provide for the improved facilities and procedures for the coordination of policies and programs in the field of water and related land resources.

25-122 to 25-125 — Allows the Governor to enter into interstate water compacts with other states for the purposes of collecting, transporting, and distributing water for use by Connecticut municipalities.

25-126 to 25-137 — Statutes create a well-drilling board who shall establish a well-drilling code.

25-130 — Requires a permit from the Department of Health before a well can be drilled.
Note: Nothing in these statutes is considered to limit the powers under Section 19-13(a) of the State Health Department or local health officers with respect to purity, potability and safeguarding of well waters.

26-3 — Gives broad powers to the Commissioner of DEP with respect to the enforcement of all laws and jurisdiction over all matters relating to fish, game and wildlife management.

26-6 — Provides for the appointment of conservation officers to enforce laws.

26-14 — References PL 81-681 which provides aid to states for fish restoration and management projects.

26-15 — References a similar federal act for wildlife maintenance projects.

26-16 — Authorizes the Commissioner of DEP to acquire rights to utilize lands for hunting, fishing, trapping, etc., and provides for the establishment of game limits to be taken.

26-17(a) — Provides for the acquisition and preservation of tidal wetlands. Also provides broad powers to the Commissioner of DEP to acquire tidal wetlands.
Note: The context in which 26-17(a) appears suggests several things: The first is that the broad meaning which is presently being attributed to it was not intended by the authors of the legislation, given

the fish, game and hunting context in which it appears. The second possibility is that the authors of the legislation slipped it in under the umbrella of fish and game in such a way as to minimize the attention.

26-27	Requires licenses and permits for fishing, hunting and trapping.
26-40(c)	Provides search and seizure rights through warrants to any enforcement officer for goods, merchandise or property in violation of the statutes.
26-65 to 26-69	Provides to the Commissioner of DEP broad powers to engage in wildlife management practices on any land or water under his control.
26-101	Provides for the creation of wildlife refuges.

The remaining statutes, through and including 26-141, are concerned primarily with sport fishing rules and regulations.

26-142 to 26-186	Establishes regulations with respect to specific equipment to be used in catching fish for commercial purposes. Also provides for licensing for commercial crabbing and lobster acquisition.
26-160	Provides for the establishment of zones distinguishing inland waters from marine waters.
26-187 to 26-192	Provides that exclusive jurisdiction and control of all shell-fisheries shall reside with the state. Also grants jurisdictional responsibility to the Commissioner of Agriculture for the preparation of maps depicting the location of oyster beds and other shell-fish grounds.
26-194	Provides to the Commissioner of Agriculture the right to lease shell-fish grounds which are under the control of the state.
26-195	Gives the right to resolve shell fish boundary disputes to the Commissioner of Agriculture.
26-221	Provides that any person removing mud near an oyster bed shall not dump it in places specially designated by the Commissioner of Agriculture.
26-236	Provides that the State Department of Health, shall issue permits for the taking of shell fish in uncertified natural grounds.
26-238	Provides for the creation of a town committee to designate suitable places within the jurisdiction of that town for cultivating oysters, clams or mussels.
26-257(a)	Provides that the local commission shall have charge of all shell fish grounds within the municipal boundaries not under the jurisdiction of the Commissioner of Agriculture. The commission may also issue licenses for the taking of shell fish.

26-287	Calls for the creation of a Waterford-East Lyme Shell Fish Commission.
29-41	Fire code shall specify minimum fire safety requirements in all new and existing buildings.
29-45	Makes provisions for the appointment of local fire marshall by the board of selectmen or legislative body.
29-55	Gives original jurisdiction status to the state fire marshall to abate a hazardous building condition.
29-89	Requires licenses for the storage, transportation and use of explosives by the Commissioner of State Police who shall have exclusive jurisdiction in the preparation of standards regulating such.
29-97	Requires a permit for fireworks display from the state fire marshall.
29-104	Requires a license to manufacture or distribute fireworks from the state fire marshall.
29-117	Requires a license for showing moving pictures from the Commissioner of State Police.
29-129	Charges the Commissioner of State Police to license amusement parks.
30-2	Establishes the State Liquor Control Commission.
30-9	Affirms local option with respect to the sale of alcohol.
30-14 - 30-62	Concerns the issuance of liquor permits in a variety of circumstances.
31-29	Requires a license from the State Labor Commissioner authorizing the use of a family residence for manufacturing purposes.
32-1	Establishes the Connecticut Development Commission whose duties (32-3) shall be advisory in nature with respect to plans and recommendations to encourage the development of new industry, businesses, commerce, etc., in the State and to provide assistance to municipal and regional economic development commissions (32-7).
32-23(e)	Stipulates special powers of the Connecticut Development Commission to help finance industrial development.
47-37	Provides that easements, when acquired by adverse use, must have been used in an uninterrupted fashion for 15 years.
47-42(a), (b), (c)	Makes enforceable conservation and preservation restrictions.
48-2 - 48-9	Eminent domain statutes stipulate who can take land and for what specific purposes.
48-10 - 48-27	Concern the procedures and conditions for taking land and payment thereof.

49-46 Lien law can provide against a different use of land upon sale, i.e., development rights.

SELECTED FEDERAL AGENCIES WITH POTENTIAL JURISDICTION IN A COASTAL ZONE

New England Regional Commission (See Coastal Plains. Same Act.).

Objectives: To enable states to take maximum advantage of Federal grants programs for the construction or equipping of facilities or the acquisition of land.

Interstate Commerce Commission.

Objectives: To provide information on enforcement of economic laws on highway transportation. Main aim is to combat unlawful for-hire transportation by motor vehicle.

General Services Administration.

Provides counseling on doing business with the Federal Government.

Federal Trade Commission.

Objectives: To prevent and eliminate monopolistic practices in business.

Federal Maritime Commission.

Objectives: To provide a forum to settle disputes between carriers and shippers on an informal basis or by institution of formal proceedings.

Federal Communications Commission.

Objectives: To help maintain efficient and responsible systems of public communication through investigation and complaints.

Coastal Plains Regional Commission (Public Works and Economic Development Act.).

To enable states to take maximum advantage of Federal grants-in-aid programs for the construction or equipping of facilities or the acquisition of land.

Atomic Energy Commission.

Objectives: To disseminate restricted data related to civilian uses of atomic energy to authorized persons for use in business, trade.

Environmental Protection Agency:

Office of Planning and Management.

Objectives: To enable states to coordinate and manage environmental approaches to their pollution problems. Attempts to consolidate separately awarded grants.

Office Research and Development.

Objectives: To support and promote the coordination and acceleration of research, development and demonstration projects.

Radiation Research Grants; Solid Waste Research Grants; Water Pollution Control; Pesticides; Air Pollution Control.

Office of Water and Hazardous Materials.

Objectives: To collect, analyze, and publish pollution control data.

Office of Air and Waste Management.

Objectives: To assist state, municipal, and intermunicipal agencies in planning, developing, establishing, improving, and maintaining adequate programs for prevention and control of air pollution or implementation of national primary and secondary air quality standards.

Water Resources Council.

Objectives: Provides grants for increased participation by the states in water and related land resources planning.

Small Business Administration.

Objectives: To aid small businesses in their financing needs.

Department of Health, Education and Welfare.

Health Facilities Construction Grants.

Objectives: To assist states in planning for and providing health facilities through the provision of construction grants for such things as general hospitals, laboratories, nursing homes, chronic disease hospitals, public health centers, and state mental hospitals for projects which will improve the quality of care.

To provide funds to finance the construction of Community Mental Health Centers.

To Provide funds to stimulate the development of Health Maintenance Organizations.

To provide assistance and encourage the development of Comprehensive Emergency Medical Services systems to reduce mortality and morbidity.

Department of Agriculture.

Agricultural Stabilization and Conservation Services.

Objectives: To conserve surface waters, preserve and improve migrating waterfowl habitat and wildlife resources.

Farmers Home Administration.

Objectives: To provide loans to farmers for irrigation, drainage and soil

and water conservation measures.

To assist public or private non-profit organizations interested in providing sites for housing.

To assist farmers to convert all or portions of their farmland for use for income producing outdoor recreation.

To provide loan assistance to local sponsoring groups for soil conservation, water development, forestation and drainage of farmland, and development of watershed works for flood protection, irrigation, drainage, water quality management, fish and wildlife development, public water based recreation and water storage.

Soil Conservation Service.

Objectives: To assist local people in initiating and carrying out a long range program of resource conservation and development. To assist states in preparing plans for the development of water and related land resources within river basins or regions.

United States Customs Service, Department of Treasury.

Objectives: To protect a domestic industry which is being injured by unfair sales of foreign goods.

Department of Transportation:

Office of Pipeline Safety.

Objectives: To develop and maintain state gas pipeline safety programs.

United States Coast Guard.

Objectives: To provide for safe passage of vessels in coastal waters.

National Highway Traffic Safety Administration.

Objectives: To provide a coordinated national highway safety program.

Urban Mass Transportation Administration.

Objectives: To assist in the financing, acquisition, construction, reconstruction and improvement of facilities for mass transit service.

Federal Railroad Administration (High Speed Ground Transportation Act.).

Objectives: To explore new ways to improve ground transportation.

Federal Highway Administration (Highway Research, Planning, Construction.).

Objectives: To assist State Highway Departments in construction of the interstate highway system and for building or improving primary and secondary roads and streets.

Federal Aviation Administration.

Objectives: To assist public agencies in the development of a nationwide system of public airports.

Department of Interior:

National Park Service.

Objectives: To provide technical assistance to state and local agencies for planning, developing, and managing their parks.

To prepare statewide historic surveys and plans to preserve buildings, monuments, and sites of historic significance.

Bureau of Sport Fisheries and Wildlife.

Objectives: To provide technical assistance to State Conservation Agencies for the management of fish and wildlife resources.

Bureau of Outdoor Recreation.

Objectives: To provide financial and technical assistance to the states for the preparation of outdoor recreation plans.

Department of Housing and Urban Development.

Federal Disaster Assistance Management.

Objectives: To provide assistance to those suffering the hardship resulting from major disasters such as hurricanes.

Community Planning Development (701).

Objectives: To strengthen planning and decision making of chief executives of state, regional and local agencies and promote the effective use of the nation's physical, human and economic resources.

Department of Defense:

Army Corps of Engineers.

Objectives: To control beach and shore erosion to public shores and reduce flood damages not specifically authorized by Congress.

To control obnoxious aquatic plant growth in rivers, harbors.

To assist in the repair of flood control works damaged by flood or hurricanes.

To provide bank protection of highways, bridges, etc., endangered by flood-caused erosion.

To provide the most practicable means of fulfilling the needs of navigation through dredging or whatever means are necessary.

Civil Defense Preparedness Agency.

Objectives: To assist civil defense directors to improve their skills in gaining public support and involvement in emergency planning and operational readiness.

To develop civil defense facilities in order to coordinate activities in the event of a disaster.

To provide temporary water supplies for those who are suffering shortages.

To provide assistance to business and industry and local government.

To organize resources for survival from natural disaster.

Department of Commerce:

Domestic and International Business Administration.

Objectives: To provide information concerning exports of certain products that require an export license.

Economic Development Administration.

Objectives: To assist in the construction of public facilities needed to initiate long-term economic growth.

To provide grants and loans for public works and development facilities.

National Oceanic and Atmospheric Administration.

Objectives: Provide river, flood and weather forecasting as a direct contribution to public safety. Other activities include:

a) Commercial fisheries disaster reimbursement.
b) Fishery products inspection and certification.
c) Coastal zone management development.

Maritime Administration.

Objectives: To promote the development and utilization of ports, port facilities, intermodal transportation systems, and to plan for control of ports under national mobilization conditions.

Operation of U.S. Merchant Marine Academy.

United States Travel Service.

Objectives: To encourage foreign residents to visit the U.S. and improve services to foreign visitors in this country.

COASTAL MUNICIPALITIES WITH AGENCY JURISDICTION

EAST LYME

Planning Commission
Zoning Commission
Zoning Board of Appeals
Redevelopment Agency
Economic Development Commission
Flood and Erosion Control
Conservation Commission
Park and Recreation Commission

GROTON, CITY

Planning Commission
Zoning Commission
Zoning Board of Appeals
Beach and Park Committee
Conservation Commission

GROTON, TOWN

Planning Commission
Zoning Commission
Zoning Board of Appeals
Economic Development Commission
Recreation Commission
Flood and Erosion Control Board
Historic District Study Committee
Housing Authority, Redevelopment Agency
Sewer Authority

LEDYARD

Planning Commission
Zoning Commission
Zoning Board of Appeals
Development Committee
Water and Sewer Committee
Historic District Commission
Conservation Commission
Park and Recreation Commission

MONTVILLE

Planning and Zoning Commission
Zoning Board of Appeals
Economic Development Commission
Community Development Commission
Housing Authority
Sewer Commission
Conservation Commission
Park and Recreation Commission

NEW LONDON

Planning Board
Zoning Board of Appeals
Redevelopment Agency
Harbor Improvement Agency
Housing Authority
Ocean Beach Park Board
Conservation Commission

NORWICH

Commission on the City Plan
Zoning Board of Appeals
Redevelopment Agency
City Housing Authority
Town Housing Authority
Historic District Commission
Conservation Commission
Recreation Advisory Board

PRESTON

Planning and Zoning Commission
Zoning Board of Appeals
Development and Industrial Commission
Park and Recreation Commission
Conservation Commission

STONINGTON

Planning and Zoning Commission
Zoning Board of Appeals
Development and Industrial Commission
Flood and Erosion Control
Sewer Commission
Conservation Commission
Park and Recreation Commission
Waterfront Commission

WATERFORD

Planning and Zoning Commission
Zoning Board of Appeals
Development and Industrial Commission
Flood and Erosion Control
Water and Sewer Commission
Conservation Commission
Park and Recreation Commission

THE ROLE OF PUBLIC POLICY AS A SOURCE OF PRESSURE ON COASTAL RESOURCES

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
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April, 1975

THE ROLE OF PUBLIC POLICY AS A SOURCE OF PRESSURE ON COASTAL RESOURCES

INTRODUCTION

This paper was prepared by the staff of the Southeastern Connecticut Regional Planning Agency (SCRPA) under a special pilot study grant from the Connecticut Department of Environmental Protection (DEP). The overall objective of the pilot study is the development of recommendations by which local government and regional planning agencies can more effectively be involved in the coastal zone management process using that area bordering Long Island Sound and the Thames River Estuary in the region known as Southeastern Connecticut as the study area. Hopefully, the recommendations regarding these governmental relationships will be applicable in other areas of the state.

The first paper published under this pilot study addressed itself to the issue of choosing a method for establishing a land boundary for the coastal zone. In addition to the analysis of various boundary-determining methods, the paper provided a vehicle for identifying a number of central issues related to the creation of a special coastal zone management system. The second paper published under this study examined the natural resource base in the coastal zone. Additionally, it analyzed the various relationships and impacts of man on the coastal ecosystem. The third paper described and analyzed the jurisdictional environment in which a coastal zone management system would have to develop. Due to the close relationship of the subject matter, this and the third paper should be read together.

The purpose of this paper is to review and survey a broad range of Federal, State, regional and municipal documents pertaining to coastal area land and water use to determine the degree to which the formal public policies expressed by these documents influence or contribute to the pressure on the coastal area.

In all, eleven plans were reviewed; 1 federal, 3 state, 1 regional, and 6 local.*

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* There are nine coastal towns in the southeast region, five of which directly border on Long Island Sound. Of the four which border the Thames River, a decision was made to limit the review to one of the town plans.

METHODOLOGY

Since our task in this paper is to continue to refine the definition of "sources of pressure on the coastal zone", to the extent that public documents, ostensibly in the vanguard of techno-social thinking constitute their own source of pressure, we must concern ourselves with the implications of the methodology employed to make such an evaluation.

As part of the ongoing SCRPA program a considerable amount of staff time is normally invested in reviewing plans and documents prepared by both public and private bodies which potentially affect the future development of the region. A considerable amount of this report is based on work previously done in this regard. Normally these reviews are conducted using the criteria of "conformance with the existing regional plan" as the bench mark for evaluation. As a matter of record, background studies for the regional plan were prepared in the early 1960's, and the final plan has been in existence since 1967. At the present time the regional plan is undergoing its first complete revision since its adoption.

The utilization of this methodology raises some serious questions relative to the purposes and intended outcomes of this task. Is an existing plan, which may be several years old, an acceptable standard against which to compare a newer plan which may have had the advantage of more and better data? Putting it another way, by what standard are we to evaluate new plans? Clearly the answer depends on any number of factors the least of which is the age of the original plan used for comparison, how competent it was when it was first prepared and how much confidence people have in it now. It is actually a highly subjective matter. The Constitution of the United States is still considered to be a sound plan for government even though it is almost 200 years old, while the Southeastern Connecticut Regional Plan, which is only 8 years old, is considered to be out of date. Ultimately, the problem we are addressing is the continuous need to update plans as new data and technology becomes available.

This whole question of standards for evaluation tends to become circular until a new set of values is introduced to replace the old ones. This is, in fact, exactly what has happened relative to the coastal zone. Consequently we must employ the new set of values against the older plans and regulations in

order for us to accomplish our task. As such, we believe the fundamental task is a valid one. Do existing state, regional, local plans and zoning regulations in their present state constitute a pressure on the natural resources base in the coastal zone?

The predominate methodology used in this report for evaluating state and federal plans differs somewhat from that used to evaluate local plans. The former has tended to be subjective using the existing regional plan as a standard. The limits of this approach have been discussed previously.

The methodology used for evaluating local plans involves a comparison of newly acquired natural resources data available on a site by site basis with the overall local plan of development as presented in map form. *Our general concern is establishing the overall compatibility of the intended uses of the land with the capacity of the land to support that kind of activity.* As part of the process of updating the regional plan, SCRPA has assembled data on a rarge of natural resources such as soils, streambelts, wetlands, steep slopes, aquifers, and public facilities such as water and sewers. According to our criteria, an area is considered highly developable if it can be serviced by sewers and does not contain any critical natural features. An area not serviced by sewers, and which displays one or more critical natural features is considered less developable at this time. Within this overall evaluative process we are also concerned with identifying areas of severe incompatibility, as when a local plan of development calls for industrial development on a site with steep slopes and no sewers exist or are planned for the foreseeable future. In this way, the natural resources data provides an objective, ready-made set of criteria for evaluation and as such makes the evaluative process both consistently reliable and valid to the extent that there is widespread acceptance of the value of natural resources and sewers as development-determining factors.

Since the purpose of this report is to assess plans for their capacity to bring pressure on the coastal resources, other aspects of local plans are examined as well. Coastal emphasis is one area of concern as well as the degree of arbitrariness which is apparent in how land is assigned for various uses. Also of interest in this evaluation procedure is an attempt, if possible, to ascertain a predominant plan attitude towards development, conservation, tax revenue, social aspects of the environment, etc. Often, this is difficult to establish objectively.

One of the problems with using this evaluative approach might be that we are accused of unfairly using "third generation" planning technology (natural resources data) to evaluate pressures imposed by "second generation" plans which did not have the advantage of such data. This is actually a moral rather than technical argument tantamount to evaluating any historical event in the context of present values. Our major counter-argument rests with the limited options available to us with respect to our ultimate mission in this project. Since we are not concerned with the historical aspect of plans *per se* as much as we are with their impact potential, two things are accomplished by employing this methodology. The first is that it gives us an opportunity to evaluate the impact of existing plans relative to the actual development which has taken place. In other words, how well have local plans predicted, or been responsible for development as it exists today? Secondly, if it can be domonstrated that our data renders local plans partially or totally inadequate due to differences in emphasis which result in undue pressure on coastal resources, then this is the signal for local governments to begin to update their plans. In short, we believe this is sufficient reason to justify this approach.

REVIEW OF PLANS

The Long Island Sound Study

The Long Island Sound Study (LISS) represents a major technical undertaking the proportions of which far exceed anything considered in this report. In a certain sense it is almost a non sequitur to examine the LISS in the context in which this report is being written due to the fact that the vast majority of proposals were developed with the specific intent of reducing pressure on the Sound. Yet even so the LISS has already had some negative implications for the coastal zone management program that cannot be dismissed.

There are two ways which the Long Island Sound Study should be evaluated: (1) In technical isolation and (2) in a larger socio-political context.

In January 1975, the Southeastern Connecticut Regional Planning Agency conducted a staff review of the summary of the draft main report. The review was exclusively technical and did not concern itself with the broader political issues surrounding the study. In the SCRPA review almost all of the comments which related in some way to this region were either favorable or supportive. In hindsignt, we believe this is an enligntening factor relative to the broader nature of the study since the "normal" expectation for a study of this magnitude is that there should have been more of a mixed reaction from an RPA technical review. On a re-examination of the recommendations we find that while individually they each may satisfy some public value or need, when taken together, many of the recommendations begin to be contradictory, or, at a minimum, in competition with each other for available resources, both human and material. The basic problem here, as discussed in the prior report on jurisdictions, concerns the method by which such a study was conducted and the fact that in the end no attempt was made to prioritize recommendations in terms of urgency for implementation.

With respect to coastal zone management we believe the LISS erringly promotes the Coastal Zone Management Program as the way of dealing with the major problems of the Sound. We believe this is an inadequate response to the total breadth of the LISS task since the problems of Long Island Sound go well beyond the administrative and functional limits spelled out by the Coastal Zone Management Act. To simply ignore the limitations of the Act in the endeavor of creating a mechanism

to save the Sound is to do the Sound a grave injustice as well as to unrealistically raise expectations about the Coastal Zone Management program. This factor remains abscure until one considers the effect of the Long Island Sound Study as determined by public reaction.

In Southeastern Connecticut, the public reaction to the LISS has been predominantly negative for various reasons, both internal and external to the study. Internally, as we have already suggested, the study is weak only in that there is little or no sense of prioritization in the recommendations. Externally, there are both public and private interests to which the study is antagonistic.* These interests have naturally responded in an antagonistic manner to the study. Thus far the subject most often referred to by those interests is the concept of coastal zone management. The net effect is that a perfectly legitimate concept for dealing with a limited set of coastal related problems (coastal zone management) has been severely damaged through its mistaken promotion as a vehicle to solve a range of problems for which it was never intended.

In summary, there can be no denying or minimizing the positive effect which the Long Island Sound Study has had in simply drawing public attention to the problems of the coastal area even if some of that attention is negative.**

The State Plan of Conservation and Development

The Connecticut Plan of Conservation and Development was released in January 1973, by the Department of Finance and Control, Office of State Planning. It promoted a set of policies for future land and water resources planning for the state. The original 1973 plan was never officially adopted by either the legislative or executive branch of state government. An updated version of the plan was prepared in September 1974, which, under Executive Order #28, made the document an official policy guide for state administration.

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* The term antagonistic as used is meant that to the extent that the study calls for change and there are interests who would resist change, then there exists an antagonistic relationship between them.

** For a more complete review of specific LISS proposals, please see the SCRPA staff report on the subject.

The principle policy element of the plan is that new development in Connecticut must be evaluated and ultimately accommodated on the basis of available water supply and water quality. The land use policies are designed to guide where, and at what general densities, development should occur. The emphasis of plan is on where and how, not when, or how much, development should occur. The overall policy of the plan is that state government must take a leadership role in establishing a land and water resource decision-making structure which will adequately ensure the interests and the participation of all affected parties.

As a requisite to the overall policy, the plan lists the following ten sub-policies:

Policy #1

Establish and protect sufficient water supply sources to meet future water supply needs.

Policy #2

Provide a wide variety of high quality outdoor recreational opportunities to all citizens with highest priority given to the purchase and development of facilities in and near the states urban areas.

Policy #3

Protect the scenic, historic and natural resources of Connecticut from premature, uncontrolled, or incompatible, development. See 3c.

Policy #4

Protect rivers and lake shores, flood plains and coastline from environmentally destructive alterations and development.

Policy #5

Direct urban development to those areas identified as suitable for urban development preferably close to existing urban, commercial and employment centers.

Policy #6

Encourage urban development to be at sufficient densities for the economic provision of services.

Policy #7

Promote staged, contiguous development within areas suitable for urban development.

Policy #8

Encourage decisions relating to major conservation and development actions to be made in accordance with the locational guide maps of the plan and with the key policies of conservation and of development.

Policy #9

Encourage the use of the plan of conservation and development as a guide in the review of projects and proposals and in assessing the need for amended or new legislation.

Policy #10

Encourage local participation in conservation and development activities.

The Report includes 4 maps:

a. Land use policy map
b. Water use policy map
c. Conservation areas
d. Urban development opportunities and limitations

From a coastal zone point of view, the land use policy map is of importance in terms of the designation of areas "suitable for development" especially when these are along the coast. To establish such a category the following criteria were used:

1. Have or will have public water and sewer.
2. Access to transportation arteries.
3. Good land.

4. Part of or close to existing urban centers.

The map indicates that approximately 20-25% of the land of the entire state is suitable for urban development, of which 60% of that amount is already built-up. The plan suggests a residential density of one dwelling unit or more per half acre for "urban uses" and goes on to indicate that as much as 50% of the state's land area is only suitable for limited development. The remaining area (25%) is designated for open space.

Although the scale of the maps used in the report (1/4"-1 mile) is approximately one tenth the scale of the maps being used to update the Southeastern Connecticut Regional Plan (1"=2000'), the conflicts between the two are quite apparent with respect to the area designated suitable for urban development. Without going into extensive detail, the State Plan of Conservation and Development has designated almost the entire coastal zone in Southeastern Connecticut, including land on the Thames River, as suitable for urban development.* While we can say without hesitation that the general planning concepts as laid forth in the document are philosophically sound according to contemporary standards, if implemented in any way, this plan would put considerable pressure on the Southeastern Connecticut coastal zone.

Clearly, as the report states, Connecticut residents are now at a point where they can no longer allow growth to occur at random. It is also clear that the plan has a distinct educational value in that it focuses attention on issues of longstanding importance. At the same time, the potential value of such a plan, its use as a guide for future state funding for such things as sewers and open space, has not yet been fully realized.

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* In fairness, it must be noted that the Regional Development Plan for Southeastern Connecticut adopted in 1967 has a similar weakness.

THE STATE MASTER TRANSPORTATION PLAN

The single plan which has undoubtedly had the greatest cumulative effect on land use is the State Master Transportation Plan which has laid the groundwork for the major vehicular transportation routes which brought Southeastern Connecticut into the twentieth century.

At the present time, the plan's objective, as stated in the Master Transportation Plan for 1975 and the Unified Work Program for the Southeastern Connecticut Region, are relatively modest with respect to development in or around the coastal zone. Nevertheless, as the Waterford town plan notes, the completion of certain key transportation corridors have had a profound effect on the development of that town (and this region) and that just about any transportation proposal near a coastal area will act as a conduit for more cars, more people, and more demand for consumption of coastal resources. It is for this reason that any and all transportation proposals near the coast must be evaluated in some detail if the intent is to minimize undue pressure on the coast.

The following 6 areas are discussed in the 1975 edition of the State Master Transportation Plan.

1. Possible replacement of the Niantic River Swing Bridge with a high clearance fixed span bridge.
2. Programmed expressway projects include: completion of Route 11 between Route 82 in Salem and I-95 in Waterford, Route 78 in Stonington between I-95 and the Rhode Island line and Route 2A in Preston between Route 12 and Route 2. Also a major traffic concern is Route 27 in Mystic.
3. Undertake a study of the State Pier in New London to identify the market potential of the pier as a port of entry for the southern New England region.
4. A study was scheduled to be undertaken in 1975 to prepare a master plan for Trumbull Airport in Groton. However, funding has not been available for this project.
5. Improvement of local bus service within Southeastern Connecticut is presently under study jointly by the Urban Mass Transportation Administration, CONNDOT and the Southeastern Connecticut Regional Planning Agency.

A 5-year capital improvements program will be forthcoming.

6. Of somewhat lower impact, bike-trails are planned for the Groton area.

From the list of items to be undertaken this year and from the broad perspective of evaluating sources of coastal pressure, it can easily be seen that almost each item will, in some greater or lesser way, enable "people-pressure" to be brought into and on the southeastern Connecticut coastal area. For example, the Route 11 proposal which enables people from the greater Hartford area to reach I-95 will enable them almost direct access to the coast. (Harkness, Rocky Neck State Park, Rhode Island beaches). The same can be said for almost all of the other highway proposals, since each deals with a specific section of road which presently inhibits free traffic flow from outside the area to the coast.

We believe this is an extremely, if not the most, profound aspect of any coastal zone planning which is to take place in the future. To the extent that transportation networks both allow and encourage people to move to the coast and to the extent that such movement constitutes a source pressure, then coastal zone management must be very closely linked with transportation planning.

The State Comprehensive Outdoor Recreation Plan

The State Comprehensive Outdoor Recreation Plan, known in its abbreviated form as SCORP, was first prepared in 1973 by the State Department of Environmental Protection. Of all the plans to be reviewed the SCORP Plan is probably one of the most potentially significant as far as tangible impact on the coastal zone is concerned. The reason for this that the primary purpose of the plan is to fulfill federal requirements for funding eligibility under the Land and Water Conservation Act from which come nearly half of the funds used for the purchase of open space in the state. The updated SCORP must be considered in the vanguard of sensitivity and concern for conservation of the natural environment. The plan devotes considerable attention to natural resource conservation and historic preservation as well as recreation.

Major recreation systems are divided in 11 use categories in the report. They are:

1. State Park
2. State Forest
3. State Recreation Area
4. State Campground
5. State Heritage Area
6. State Reserve
7. State Natural Area Reserve
8. State Fish and/or Wildlife Area
9. State Access Area
10. State Waterbodies
11. Indian Reservations

The following 3 charts taken from the 1974 Citizens Summary display the relative magnitude of expenditures for acquisition and development to be made in southeastern Connecticut over the next 5 years.

ACQUISITION BY LAND TYPE

Land Type	Total Acreage To Be Acquired	Total Cost
1) Multi-purpose streambelts	10,750	$ 11,000,000
2) Tidal wetland	4,200	4,750,000
3) State park and recreation areas	2,000	4,750,000
4) Municipal parks	9,000	15,000,000
5) Rounding-out management areas	3,125	2,500,000
6) Natural areas	1,375	1,500,000
7) Waterbodies, pond-bottom	4,375	875,000
8) Boating access areas	(40-50 sites)	1,625,000
9) Special Project Acquisition Fund	-----	10,000,000
Grand Total	34,825 + Acres	$ 52,000,000

ACQUISITION BY SCORP PLANNING REGION

Planning Region	Total Acreage To Be Acquired	Total Cost
Western Coastal	4,450	$ 10,500,000
Western Upland	9,500	10,000,000
Central Valley	8,625	12,500,000
Eastern Coastal	7,375	5,500,000
Eastern Upland	4,875	3,500,000
Special Project Acquisition Fund		10,000,000
Grand Total	34,825 + Acres	$ 52,000,000

DEVELOPMENT ACTION BY SCORP PLANNING REGION

Planning Region	Estimated Investment in Recreation Development
Western Coastal	$ 3,000,000
Western Upland	1,685,000
Central Valley	3,000,000
Eastern Coastal	1,000,000
Eastern Upland	900,000
Grand Total	$ 9,585,000

Although the plan is not precise relative to specific projects on specific sites, certain general things are evident from these charts. The most obvious factor is that for the next 5 years, the major emphasis will be on acquisition rather than development.* What is not as clear is that for southeastern Connecticut acquisition costs represent approximately 10% of the total projected expenditures for the time/period while land area represents almost 20% of the total. The implication here is that land in general is cheaper in southeastern Connecticut relative to other areas of the state.

In the section entitled "Administration and Future Planning", reference is made to "fulfilling the recreation and natural resource objectives of the coastal zone and to consideration of the recommendations of the Long Island Study". Whether or not these statements are sincere is difficult to evaluate.

In the section entitled "Action Plan", the first priority seems to be placed on "the acquisition of diminishing land forms" such as tidal wetlands, offshore rocks and islands, and other coastal-related land forms. Second priority is given to acquiring areas which would enable public access to marine waters for boat launching and fishing easements, but not swimming.

The thought which occurs here is simply that purchase of tidal wetlands seems to be an unnecessary expenditure of funds when those areas have been essentially regulated-out of use. A related consideration is that the general category of "diminishing land forms" is so broad as to be questionably useful as a guide for decision-making relative to the expenditure of funds.

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* In some measure, this might explain the designation of Bluff Point as a preserve rather than as a developed recreational site.

Second priority is given to acquiring areas which would enable the public access to coastal areas for fishing and boating, but not swimming. The lack of concern for swimming as a high priority area of need runs counter to specific recommendations made by the Long Island Sound Study. While it is true that Connecticut can boast the registration of 75,000 boats, it is equally true that boating remains an exclusive activity for those who can affort such a luxury. At the same time, swimming and beach activity are virtually universal, appealing to the very young and very old alike. Our conclusion then is that this need has either been overlooked or ignored. Either way it points to a fundamental inadequacy in the document.

The Regional Development Plan

In the evaluation of public documents which potentially act as sources of pressure on the coastal zone, we wish to pay particular attention to the Southeastern Connecticut Regional Development Plan and attempt to evaluate not only the basis upon which it was established but also its extent of influence with respect to the patterns of development which have emerged since its publication and adoption by the participating municipalities. We believe this special emphasis is justifiable on the basis of three factors:

1. It tests our own objectivity to the fullest extent.
2. It tests some of our preliminary conclusions about regional planning as presented in the prior paper on the subject of jurisdictions.
3. It enables us the unique advantage of hindsight and perspective to evaluate how effective, if at all, regional planning is in influencing certain kinds of development patterns.

In order to fully understand and appreciate the 1967 Southeastern Connecticut Regional Plan of Development, it is necessary to explore some of the technical background material which eventually led to the development of the particular model on which the Plan was based. The model which was ultimately selected was done so from amongst 4 other models. To understand the thinking behind this plan one has also to understand the models which were rejected. Listed on the next page are the 5 models with a brief description and analysis of each as taken from a background report published in 1967 entitled Alternative Land Use Plans.

1. Linear Concept - Closely reflects region's actual development pattern in which the most intensive development is located on the coastal and estuary area. Under this concept, the hinderland would remain low density.

2. Balanced Concept - Would distribute industrial and commercial activities and a range of residential densities throughout the region. The report states that this alternative would fragment the region and would require duplication of facilities and services although it is consistent with the present municipal taxing arrangements which tend to encourage such development.

3. Linear - Satellite Concept - Cross between the above two models.

4. Multiple Corridors Concept - Concentrates development in the existing core with fingers extending outward to minor centers of development. Attempts to intergrate presently fragmented parts into the development core. Really just "controlled" sprawl.

5. Expressway Oriented Concept - The model which was ultimately adopted, it recognizes the strong influence the expressway system will have on future land use. High density development will occur at or near expressway interchanges while areas away from interchanges will remain less dense.

Later in the Report, these five basic alternatives were reduced to three which supposedly combined the best features of each. The final 3 models as presented in that report were: 1)the Linear-Major Satellite; 2)the Linear-Minor Satellite and, 3)the Expressway-Oriented. It is our opinion that though this process of reduction, the models became so technically similar than the distinctions between them were reduced to degree rather than kind. Some questions then begin to emerge concerning the actual purpose of these models and the planning process itself, questions which would not be apparent from an examination of the final plan itself. That is, the entire planning process, culminating in the regional plan, seems to be geared toward simply anticipating the probable form of future development and developing a plan around it rather than guiding it.*

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* This conclusion was drawn from an examination of a generalized land use map accompanying the report and from strong references throughout the document on alternative land use plans concerning existing patterns of development and probable future development trends in and around what has been identified as the "development core", which is defined as that area bordering the Sound and the Thames River Estuary.

What emerges then, is a supposedly technical process which will ultimately function to simply rationalize the development which would have occurred anyhow despite the existence of a plan.

Thus, the 1967 Southeastern Connecticut Regional Plan was simply a statement extending existing development trends. In actuality, it became a composite of existing municipal plans with a few minor modifications. This resulted mostly from adoption procedures which required endorsement from each of the participating municipalities. What this means is simply that the plan was not an independant expression but a conduit for local interests and pressures which existed well before the publication of the plan.*

The most obvious question now is, is the expressway-oriented model the land use development pattern which is emerging? If so, can the Regional Plan be given credit for having influenced such a pattern?

As we implied earlier, because the range of models were not that characteristically different it is only possible to make such an evaluation based on the pattern of development which has occured outside the central development core. Consequently, since such a small amount of development has occurred in the past eight years it seems somewhat premature to attempt to draw a conclusive judgement on the consistency of the expressway-oriented land use pattern as presented in the regional plan. On the positive side, though it can be stated in hindsight that the present development is generally following an expressway orientation it can also be argued that existing development is following the linear-major satellite model too.

To a certain extent, some of the general characteristics relative to "SCORP" planning discussed earlier can be directed toward the Regional Plan. That is, the Regional Plan was not inspired by a groundswell of local support but instead represented a response to legislation which required regional plans in order to establish certain kinds of local eligibility for state and federal funds.

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* In fairness to the 1967 Regional Plan, natural resource limitations were integral to the extent that such data was available. Thus, streambelts and major tidal and inland wetland are represented in the plan as well as consideration for future water supply.

This supports some of our earlier contentions concerning the inadequacies of early regional planning as presented in the prior document of jurisdictions. The conclusion here is simply that the combined constituency at the regional level is not fundamentally different from that which is found at the local level. In other words, "the whole is not fundamentally greater than the sum of its parts". For the purposes of this paper, it vindicates the Regional Plan itself from any direct responsibility for acting as a pressure source on coastal resources. Likewise, it eliminates any fantasies relative to the viability of the RPA's as presently structural in doing the state's bidding in an ongoing program of coastal zone management.*

East Lyme Town Plan

East Lyme, the western-most town along the southeastern Connecticut shore, has, like its neighbor to the east (Waterford), retained its predominant residential character despite the lateral dissection of I-95. This comparison holds except for the village of Niantic which has developed into a commercial area of modest yet growing proportions. The Niantic River, which separates East Lyme from Waterford by a two-lane swing bridge, has had the relative effect of isolating Niantic as a commercial unit. The State of Connecticut has proposed construction of a fixed, 4-lane high level bridge which would require an enormous amount of fill to achieve the 55 foot clearance for boats passing beneath. Although there is considerable question concerning the environmental impact of this project on the Niantic River, the project has been approved and is slated for construction.

The most recent plan for the Town of East Lyme was completed in 1967. It makes no mention of the need for, nor does it anticipate in any way, the proposed reconstruction of the Niantic River Bridge. What it does do, in fact, is to see the bridge along with the river and the bay as a set of unalterable limiting factors with respect to future commercial development in Niantic on which is placed a high value. What is important here is not so much the details of a

* In considering the direct impact of the regional plan there is considerable risk of selling it short by not at least acknowledging its indirect impact with respect to grant reviews. In general, reviews are an important means of influencing action. This is particularly true in the case of federal grant programs which require some sort of a regional plan to establish local grant eligibility. Here, if it can be certified that a local project does not conform to the regional plan, it is highly unlikely that such a project will be funded.

particular town plan but their almost total vulnerability to major outside influences rendering them in one fell swoop as inadequate plan statements.

Of course, no one could have predicted the tragic bridge failure in West Virginia in 1969 which stimulated nationwide attention to outmoded bridges. Following this set of events, in a survey conducted by CONNDOT, the Niantic Bridge was considered to be the top priority in the State for immediate replacement.

In comparison to some of the other coastal towns in southeastern Connecticut, especially Waterford, the development pattern of East Lyme is clearly coastal-oriented, industrially, commercially and residentially.

A factor not dwelt upon thus far in this study but painfully apparent in the Town of East Lyme is that the prime real estate along the coast, that is the first 250-500' is owned and operated by the railroads. This places an apparent if not sometimes real barrier between inland activities and the water. It is more apparent in East Lyme (Niantic) than in any other town in the Southeastern region due to the high profile of the railroad in relation to the land/sea vista at that location.

Of the towns in the Southeastern coastal region, East Lyme has one of the largest percentages of land in open space, recreational or institutional uses. East Lyme, like Waterford, also has a considerable amount of land which is potentially developable according to the definition of developable land applied in the new regional plan update process decribed on page 3.

In examining the existing Town Development Plan against the new criteria, there is general compatibility with only minor conflict on a few scattered inland areas. The critical areas along the coast and Niantic River were designated in the 1967 Plan. An open space acquisition plan prepared by East Lyme residents in 1974 recommends that some of these critical coastal areas in East Lyme be acquired and preserved by the Town.

Waterford Town Plan

The Town of Waterford lies between the towns of East Lyme and New London, having been taken from the later and incorporated as a separate municipality at the beginning of the 19th century.

A town plan was prepared in June, 1973, by a consultant to replace/update the existing plan prepared in 1964. The updated plan was never adopted, ostensibly because of a serious incompatibility between the plan and the values, goals and objectives of the town residents. Assuming that there were no contractual difficulties with the consultant and that the document was completed for a reasonable price, in a reasonable amount of time, and that the necessary background studies were completed to justify and substantiate the directions suggested, it is difficult, from the surface, to discern why the plan was not corrected and adopted. Although the proposed plan is by no means a profound literary statement and its format is sometimes vague and general, it does recognize certain obvious physical, locational and social characteristics about the town and its surroundings and attempts to build them into a planned strategy for future development. The inability of the town to correct the inadequacies of the proposed plan has effectively left it without a plan for almost two years.

Looking at Waterford from a broader, coastal zone development perspective, we can see that Waterford is in a particularly strategic position with respect to future development, being located at the crossroads of Route 11, I-95 and Route 52 and with a relatively large portion of developable land. The proposed plan recognizes this location factor will change Waterford's character from a "bedroom" community to a fully developed town in its own right.

Comparing the proposed plan with our natural resources data, except for a minor conflict in a section called Quaker Hill in which apartments are designated on land which at best will support low density, large lot development, pressure on the immediate coast is moderate compared to what it might be with respect to potentially developable land.

For the most part, the coastal aspects of the community are curiously downplayed and not emphasized in the proposed plan. As a matter of fact, except for a few scattered references to boating and some town locational maps, one would

not know immediately from reading the proposed plan that Waterford was even a coastal community. Instead, the internal transportation network has become the exploitable element in the plan and economic development is concentrated away from, rather than on or toward, the coast. The lack of coastal orientation in the proposed plan, and the development of the town that has thus far taken place, can be partially explained by the fact that a large portion of the shore is already publicly (state) held (Seaside Regional Center and Harkness Memorial Park). Furthermore, a good percentage of the remainder of the shore property is privately held in large parcels and although it is developable, is unlikely to be sold in the near future for development purposes. This aspect, plus the fact that Waterford has on its coast a site which houses several nuclear power plants (Millstone) makes the town somewhat of an oddity and a focal point of interest in Southeastern Connecticut. Furthermore, what little development has taken place has thus far not done so in any singularly, cohesive manner. That is, there is no real town center but only scattered residential neighborhoods which are the only real source of identity for the town. Together these neighborhoods may create a "town" but it is one of highly diverse interests. This we believe is due to geographical factors of isolated development rather than to any social or economic heterogeneity.

In conclusion, the best we can say about the status of local planning in Waterford is that at the present time, it is inadequate on a number of fronts. This is especially critical since Waterford does have large development potential. Coincidentally, it is surprising that more pressure hasn't been put on the coast than already exists. At the same time, one might speculate that development will occur randomly along the coast if the present local planning situation isn't corrected.

New London

New London is the smallest coastal community in Southeastern Connecticut. It is also one of the oldest and most urbanized. The latest town plan was completed in 1967 by a consultant. The general attitude of the plan as reflected in the Introduction, states that: "....the availability and adequacy of community facilities will largely determine the future desirability of New London and its ability to compete with other cities for new development."

The report leaves unstated why such competition for development is necessary and/or desirable but simply poses it as a given "natural" condition. We suspect that such a statement reflects the local tax revenue situation in Connecticut which requires towns to compete with each other for revenue-producing development.

One of the major coastal uses in southeastern Connecticut, the Connecticut State Pier, exists in New London. It represents one of the main sources of region/state/local commerce. Active shoreline recreation also exists in New London at Ocean Beach Park. The park represents a high intensity coastal use comprised of an amusement park/beach combination. A key land use recommendation in the 1967 plan was the development of a park-marina in the Shaw's Cove area of the city which would exploit to the greatest advantage as one of the city's key assets, its "coastal location".

The general picture given here is one of already intensive uses being redeveloped to accommodate even more intensive activities. Economic-oriented redevelopment is the key concept in the plan. The following quotation taken from the plan underscores this: "....major expansion within the central business district will take place in the form of intensification (increased height and floor area) and the gradual elimination of some non-commercial uses from the present area. [In addition] an area of high-rise multi-family apartments...is proposed to surround the CBD".

The important aspect of this plan is the character of development it represents relative the other surrounding towns in the region. That is, New London is itself characteristically different from all other towns in the region in that in a rural-to-suburban-to urban continum of development, it represents the first town on the Sound to be in "the second generation" of urban development.* It is also noteworthy that this redevelopment stage in New London is occurring while most of the other towns in immediate proximity to New London are just moving from a rural to a suburban character. While in one sense this situation represents a development lag relative to the surrounding communities, in another sense the lag it represents supports the need for coastal zone management. Thus, New London represents an extreme example in our continuum of coastal towns and it is an impor-

* It could be argued that New London is actually in the third or even fourth generation of urban development having been destroyed and rebuilt as early as the revolutionary war.

tant example because from the New London development pattern we can begin to project the kinds of development patterns that will occur in the towns in the future. Consequently, unless fundamental changes occur which alter the reasons why municipalities encourage development (taxes), the best that will be accomplished through coastal zone management will be simply a forstalling in time of the development/redeveloped pattern exhibited by New London.

Groton

Groton is one of the most extensively developed areas in the Southeastern coastal region and the 1973 updated town plan reflects the coastal-dominated growth of the previous two decades.

The predominance and scale of industrial development in Groton virtually overshadows all other land uses on the coast except for some pockets of intensive residential development such as Noank and Groton Long Point. Such development renders the goal of coastal conservation through planning and management in Groton almost moot since, for example, Trumbull Airport, and much of the residential development of Groton Long Point is built on filled tidal marshes.

On the positive side, the updated town plan reflects considerable sensitivity to inland natural resources especially the stream belts on which no development is recommended. In the "Principal Goals and Objectives" section of the plan, the caveat is given that all future industrial development in the town will be limited to several sites, the primary one being just north of the airport. The counterpart to this caveat is that the future economic growth and stability of the town should rest with commercial development and the consolidation of commercial sites is considered a primary objective.

All of this is to say that in the opinion of the authors, the Groton town plan is reasonably competent, especially so under the existing terms of already complex and intensive development.

The only major conflict* in Groton concerns a site adjacent to the reservoir just north of Route 184 which is designated for future industrial (high intensity) development. Due to the natural features character of the site and the fact that the area is not now, nor is slated to be, serviced by sewers, our data indicates that the site should remain undeveloped even for low density.

Stonington

The town of Stonington has engaged a consultant to update its last town plan which was completed in 1960. As of this writing, the consultant has presented a draft to the town which, in the opinion of the staff, is rather arbitrary and does not seem to be based on available natural resource data. Recognizing the inadequacies of situation, the municipal officials of Stonington are presently struggling to consider various options with respect to the updating of the plan. Due to the dynamics of the present situation, it seems to serve no purpose to review a plan which is recognized by all parties to be outdated or to anticipate what an entirely new plan might propose. At the same time, it is worthy of note that representatives from the Town of Stonington have been among the most vocal and concerned throughout the course of our pilot study in seeing that the prerogative of ongoing coastal zone management should rest with the towns.

Even though the new plan is not complete, certain elements are clear and deserve to be noted. The existing 1960's plan, like the new proposed plan, was completed by the same consultant. Both are clearly development-oriented, proposing the utilization of vast areas of land for industrial development far in excess of what might be needed to supply employment to a residential population of 15-20 thousand. This would make Stonington a major importer of labor and would most likely put pressure on the town for additional residential development which would in turn require more schools, police and fire protection, etc. And all of this in a town with a considerable amount of the developable land already developed.

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* There is another major conflict of a different magnitude in the coastal zone which coincidently involves the town of Groton. It concerns the use of a large tract of state owned property on the Groton shore called Bluff Point. Interests are presently split concerning the development of the property. We have not felt it necessary to dwell on the issue at this point since it was mentioned in the review of the SCORP Plan and State Plan of Conservation and Development.

Ledyard

The Ledyard town plan was prepared in 1972 through a community assistance program operated by the Southeastern Connecticut Regional Planning Agency. The community assistance program is a separate entity from this pilot study and it was thought that if we were going to review a single sample plan of a municipality bordering an estuary, Ledyard provided a unique opportunity to turn our evaluative skills inward so to speak.

As background, Ledyard is one of the fastest growing towns in the region. This is due to the fact that it lies just to the north of Groton and itself borders the Thames River. Consequently, with the growth and expansion of the Electric Boat Division of General Dynamics and the location of part of the U.S. Navy Submarine Base within its borders, Ledyard was all but predestined to be developed as a bedroom-type community.

To begin with, natural features and topography play as dominant a role in Ledyard as much as in any other town in the region. Along the river, approximately the first 250' are owned by the railroad. Existing land use is mixed, with heavy industrial, residential , open space and recreation freely interspersed. The development plan suggests industrial development on 6 separate sites scattered throughout the town. One of these represents an expansion of an existing industrial site along the river. For the most part, the designation of these sites seems to be determined by existing vehicular routes which would provide potential, if not indirect access to markets. Two of the sites (not counting the river site) are already owned by area industry and although designated industrial, it is unlikely that they will be developed.

In comparing the development plan with the new data assembled for the regional plan we find the land use designations generally consistent with our natural resource information suggesting, as we said, a virtual requirement for sensitivity to predominant natural features before any local planning could begin.

The estuarial location of Ledyard is not a predominate part of either the existing land use or of the character of the future plan of development. The explanation for this is probably at least threefold. a)The fact that the claim of the railroad line to the river's edge significantly preceded in time, other

activities in the town. b)Conversely, that the great development and growth of the town has taken place only in the last 15 years. c)In that same period, with a few exceptions, river transportation has been deemphasized (nationally) as a way of moving materials and goods. Consequently, in the main period of development (1950-1970), location on or near the river held little or no fascination or interest. Even today, with the exception of the railroad, the sub base, and one large industrial installation, that area remains virtually undeveloped.

Comparing the 1972 Ledyard Plan of Development with the 1975 natural features data there are major areas of conflict with 3 of the sites designated for industrial development on the town plan. These conflicts cannot simply be explained by minor alternations in the sewer plan which might have taken place since the plan was published. More likely, these conflicts can be explained as a political situation (of a technical nature) whereby local interests, faced with limited choices for prime industrial sites have attempted to satisfy the desire for industrial development (and taxes) by designating a number of less-worthy sites.*

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* Interview with Gerhard Amt, Assistant Director, Southeastern Connecticut Regional Planning Agency, Planner in charge of preparing the Ledyard Plan of Development.

SUMMARY

As stated in our earlier paper on jurisdictions, while one of the major causes of development pressure in the coastal zone is undoubtedly our property tax system, some of the pressure can be attributed to crude planning and zoning practices. To the extent that local plans and zoning regulations are expressions of the revenue needs of a community, plans in general can certainly be thought of as an extension, or a part of, that pressure system. Yet in many cases the plans and ordinances are simply inept in the sense that little thought is given to, or little understanding exists, relative to the ripple effect of certain kinds of development and zoning practices.

The 1971 State Plan of Conservation and Development adroitly traces the dynamics of the (urban sprawl) development process and it is probably worth summarizing here. As characterized in the plan:

a. Business people, trying to avoid high land costs and taxes, locate such things as motels, gas stations, restaurants and factories in fringe areas.

b. Prospective homeowners and residential developers try to avoid such areas for new residential development.

c. Scattered pockets of development emerge in semi-rural, fringe areas which require that services be extended over great distances. This results in higher costs per service unit.

d. The "leap-frogging" stage gives way to the "filling-in" stage on land which was initally by-passed due to either high cost or low suitability.

e. As more new costly services are required attempts are made to attract new industry to absorb the higher costs and the cycle begins to repeat itself.

This simplified version of the dynamics of development sounds so normal, logical and predictable that it is difficult to see "the problem". A growing population has to have new housing, new schools, new businesses and factories to work, and there is nothing strange or problematic about that.

While it is true to an extent that population growth is an independent and virtually uncontrollable variable, it does not necessarily follow that land

consumed for development is also uncontrollable. Thus the problem of the coastal zone is essentially the problem of an urban sprawl-type development into the coastal zone. How, then is this chain of events to be broken and what potential does local and regional planning have for accomplishing this task?

As a rule, an area tends to perpetuate, through a plan of development, an image of itself as it is at the time the plan is prepared. This is perfectly normal and can be seen almost without exception with respect to the regional and local plans reviewed for this report. At the local level, predominately rural, undeveloped communities attempt to translate this image by projecting the plan into a zoning regulation. The most popular way of achieving the rural, open character is by large lot zoning. Unfortunately, it is precisely this kind of zoning that functions to stimulate the sprawl described in our model above.

Having reached this important point in our study, there are two fundamental questions which must be raised:

a. Do the planning and zoning rools exist to control this kind of sprawl, or do the limits imposed by the Constitution pre-empt such effective (but unconstitutional) public action?

b. If the tools do exist, is there anything about them which would suggest that they cannot be used by local government?

Clearly, if the legal tools do not exist then the concept of land and water regulation through a special mechanism called "coastal zone management" is simply academic and irrelevant. But, if the tools do exist yet there is something special about them which precludes their use by local government then the discussion about structure at the local level is irrelevant.

In answer to the first question, we believe that some of the tools exist. This is not meant to be a hedge but simply an honest appraisal of the situation. A discussion of such land-saving techniques as cluster zoning and planned unit development is presented in the 1973 State Plan of Conservation and Development and the problem is addressed very competently in the July 1974 Preliminary Plan Report of the Long Island Sound Study. Consequently, we will not repeat that discussion here but merely indicate that these references exist.

In answer to the second question, there seems to be nothing about these tools and techniques which precludes that they be used by local government. It seems to us that it is simply a question of a technical lag and the need for leadership at the state and regional level to foreshorten this lag.

CONCLUSION

In a paper entitled Selected Extra-Regional Factors Influencing the Development of Southeastern Connecticut prepared by the Southeastern Connecticut Regional Planning Agency, the author considers the degree of influence and limits of control which any single or multiple set of interests can exert on the development of the region. It is a meaningful paper in that it has the effect of shattering illusions which individuals and governmental units of all sizes tend to harbor with respect to their own exclusive potency to determine destiny. This report was not intended to duplicate or compete with that report but instead is intended to compliment it and expand its implications with respect to the coastal area.

Since there is a natural psychological tendency to accept, without question, existing pressures on the coastal areas as factors which always existed, it must be considered, then, that the "real" pressures on the coast are those that are yet to come. Such things as off-shore drilling, oil refineries, jetports, tankers, not to speak of major expansions of Electric Boat, U.S. Navy Base, Connecticut State Pier, U.S. Coast Guard Academy, Trumbull Airport, are factors which haven't been considered in the report. Our purpose here was more general. It was to evaluate the degree to which public policies stimulated pressure on coastal resources or were simply insensitive to these pressures. In answer to our question, "Do existing federal, state, regional and local plans constitute a presure on the resource base of the coastal zone?" we would have to answer that they do somewhat but in varying degrees and mainly to the extent that there is a techno-cultural lag between the new set of values and a new set of plans reflecting those values. That is, plans which have been completed recently are less likely to constitute a discernable pressure.

In the plans reviewed for this project, although none was exclusively concerned with the coastal zone per se, each tended to embody a certain portion of the goals and objectives of coastal conservation and development as implied in the federal legislation. Certainly none of the plans could be singled out as a document which was openly antagonistic to the goals of thoughtful coastal conservation and development. Nor can it be said that whatever differences occur between the plans in terms of emphasis on those goals could not be attributed to a normal techno-social time lag. In other words, given a certain amount of time,

we can expect the updated versions of each of these documents to embody the new set of values.

What does this mean? It may mean that it is unnecessary to instigate special coastal zone management and that if encouraged by a new set of standards, existing planning and management functions can carry out the intent of coastal zone management without establishing a whole new structure in addition to what already exists. This is a very real option which must be given serious consideration in any attempt to bring about change.

Toward that goal, the process of regional planning must be considered to be one of the most socially and technically acceptable forms of bringing about change. The planning process is dynamic and often acts as a vehicle for public education which in turn spurs new values and attitudinal changes. With respect to coastal zone management, planning should be promoted ostensibly for purposes of public education and as a vehicle for preceeding to develop standards for management.

In most cases the plans reviewed for this study did not put as much pressure on the resource base as they did on the diverse administrative structures surrounding those resources. That is, in their time, these plans were, for the most part, in the vanguard of techno-social change and must really be viewed against the prevailing techno-social values of the time they were prepared as well as against contemporary standards. This being the general case, we must conclude by asking what are the gross alternatives relative to coastal zone management?

Basically, a decision must be made either in favor of or against special management emphasis in the coastal zone. This is going to be a political decision and even though it is not absolutely clear what is meant by the term management,* the need for special attention in the coastal zone remains unchanged. Consequently, to our way to thinking, the need for management renders the management - no management issue moot. Some form of coastal management is inevitable. Yet since there are innumerable forms which that management can take, choosing the wrong form may prompt a no-management reaction by the public.

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* Management can be either active or passive. It can be simply regulation, or regulation, planning, and implementation in some combination.

During the course of this study we have witnessed an intense public reaction to the vague concept of coastal zone management as presented by the Long Island Sound Study. At this point there is no question that there is a considerable amount of public antagonism, skepticism, and concern about coastal zone management, or at least what the public perceives it to be. Our conclusion is that since planning is the most acceptable means of bringing about change and that the change we want to bring about is basically attitudinal with respect to coastal zone management, that the planning must follow a certain form in order for the objective of management to be achieved.

The issue of instituting coastal zone management is complex and involves two basic components; a)Some combination of ecologically, socially and/or economically sound objectives for land and water use and, b)the means of achieving those objectives. As stated in an earlier publication, the possibility exists that the decision-making outcomes in achieving these objectives may be the same even though the vehicle for reaching those decisions may be radically different. Since we are concerned primarily with outcomes, we must take cognizance of the fact that the secondary factor is the decision-making structure. Even though both structure and outcomes are emphasized in the federal coastal zone legislation we believe the critical factor on which the development of a special coastal zone management system in Connecticut rests is, at the present time, the structure surrounding that decision-making process.

In seeing the problem in this light, we are recommending that the basic structure and process utilized for inland wetlands management is an appropriate model for coastal zone management at this point in time. Although our recommendations ultimately go beyond the inland wetlands regulatory process, we believe it is a worthwhile model for the following reasons:

1. There is precedence for such a process with respect to this type of regulation/management.
2. The wetlands act is accomplishing its basic objectives which is special attention for wetlands.
3. The roles and relationships between the state and local communities are established through the wetlands regulatory process.
4. Resistance to coastal zone management will be minimized by utilizing such a model.

In our preliminary recommendations coastal planning becomes an integral part of the management process accomplishing not only the conspicious objectives of allocating resources but also of community involvement and education regarding coastal ecology. In the initial stage coastal management should probably take the form of coastal planning with the initiative placed at the municipal and regional level. That is, legislation will probably be necessary to require each town on the coast or boarding a salt water estuary to prepare a coastal plan in conjunction with a regional plan and/or adopt a revision to each existing municipal plan which is consistent with state criteria. Along with that requirement, funds will have to be provided for technical assistance in preparing such a plan. One possible alternative is to channel the funds through the Regional Planning Agencies in the coastal zone and have them be responsible for providing the necessary assistance to the municipalities. Determination of the criteria for the plan as well as the geographic scope of the coastal area must be the responsibility of the State Coastal Zone Management Bureau and should include such considerations as public access at regular intervals, restrictions on land uses near tidal marshes, flood plains; cluster zoning; tax incentives (rather than penalties) to locate industry outside the coastal zone; and other matters of importance.

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CASE STUDIES OF PROPOSED OR UNDERTAKEN PROJECTS IN THE COASTAL ZONE

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CASE STUDIES OF PROPOSED OR UNDERTAKEN PROJECTS IN THE COASTAL ZONE

PREFACE

This paper was prepared by the staff of the Southeastern Connecticut Regional Planning Agency (SCRPA) under a special pilot study grant from the Connecticut Department of Environmental Protection (DEP). The overall objective of the pilot study is the development of recommendations by which local government and regional planning agencies can more effectively be involved in the coastal zone management process, using that area bordering Long Island Sound and the Thames River Estuary in the region known as Southeastern Connecticut as the study area. Hopefully, the recommendations regarding these governmental relationships will be applicable in other areas of the state.

The first paper published under this pilot study addressed itself to the issue of choosing a method for establishing a land boundary for the coastal zone. In addition to the analysis of various boundary-determining methods, the paper provided a vehicle for identifying a number of central issues related to the creation of a special coastal zone management system. The second paper published under this pilot study examined the natural resource base in the coastal zone, and analyzed the human impacts, as well as the natural stresses, which are applied to that base. The third paper published under the pilot study described and analyzed the jurisdictional environment in which a coastal zone management system would have to develop. The fourth paper prepared under the pilot study reviewed and surveyed a broad range of Federal, State, regional, and municipal plans pertaining to coastal land and water use to determine the degree to which these formal public policies influence or contribute to pressure on the coastal zone.

The purpose of this paper is to review the decision-making process embodied in the granting of permits undertaken in selected case studies completed or proposed in the coastal zone. Also of interest is the identification of "informal" systems of communication which occur (or not) at the local and regional level to determine the degree to which the outcomes of these projects can be influenced. As a link between the formal and informal systems, we have paid particular attention to the role of citizen participation in these decisions.

Consequently, this paper is intended to examine some broad assumptions with respect to the structure and outcomes of decisions as they have been made in the past and as we can expect them to be made in the future unless certain changes are made. Our objective, then, is to identify inadequacies, gaps or overlaps in this formal system of decision-making with special emphasis placed on the formal and informal role of a singly affected town, or an aggregate of affected towns, loosely called a region. Hopefully, these inadequacies will lead the way to some management recommendations relative to the complex relationship between individual towns, regions, the state and the federal government.

INTRODUCTION

With the transfer of planning and zoning responsibilities from the state to the local municipalities,* most land use decisions which are made at the local level are done so with little outside formal or informal influence. Town zoning, availability of public facilities such as water and sewer systems, and subdivision regulations are the traditional formal determinants of the kind and intensity of development usually permitted within the town. Formal outside influences affecting local land use decision-making in Connecticut include tidal and inland wetland legislation which requires special consideration of these land types in the final decision**, and the jurisdictional permit-granting authority of several state and federal agencies to be discussed in the succeeding case studies. Although a specific land use may be permitted in a municipality, and that use assigned to the appropriate zone, as the formal permit procedure exists today, should that use require certain environmental or other operational permits, as a function of the police power, state and federal agencies alone possess the authority to grant or deny the permits. Hence, they can have the final say on certain land uses or activities in particular areas of a municipality.

To say there is a current system of formal coastal area management procedures would be incorrect and, at least, misleading. Short of special requests to dredge or fill areas in the immediate coastal zone, decisions on new land uses are made

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* Chapters 124 and 126 of the Connecticut General Statutes.

** The Connecticut Inland Wetlands and Watercourses Act (P.A.155) has encouraged local regulation of inland (or freshwater) wetlands. The Connecticut Tidal Wetlands Act (P.A.695) places ultimate control of these special land types with the State of Connecticut.

without too much special attention for the coastal water and adjacent coastal lands. In contrast, there was probably more "attention" paid to special coastal features prior to the 1969 tidal wetlands act. Before that date, many acres of tidal marsh and adjacent floodplains were dredged to provide for protected boat marinas, or filled and "stabilized" in order to support such things as car dealerships, grocery stores, shopping malls, gas stations, restaurants, private residences and more shore-oriented enterprises. The attention paid to these coastal areas prior to this time revolved around the low market value of the land and not for the high ecologic values that a formal coastal area management program might seek to recognize and conserve where necessary.

It is a fact that many of these shopping malls, private residences, and other shoreline commercial and industrial installations have suffered serious structural damage from coastal storms, sustained failing of on-site sewerage systems, or sinking and cracked foundations due to poor drainage in soils not capable of supporting such development. Finally, man in general and various Planning and Zoning Commissions in particular have begun to view coastal land as a complex resource which can absorb only so many serious ecologic violations and unless regulated, will cause great costs and penalties to be incurred by individuals and the town as a whole.

Armed with some valuable environmental legislation which has surfaced in the last few years, town regulatory commissions have been provided with some impetus (and some reasons) for establishing a formal regulatory process which identifies specific land functions which should be left undisturbed. In addition, as appreciation is gained for the full range of land types and as associated functions are identified, only then can the town regulatory agencies hope to assign the "best uses" for these land types by weighing these environmental factors against the economic needs of the town. Historically, the "best use" has been seen almost exclusively in terms of short-term economic gain and the informal system of private influence has pervailed. With new legislation, this scenario is beginning to change.

It makes sense that the bulk of land use decisions should be made at the municipal level. At one level of logic, local self-interest demands it with the relationship of land use to property-taxes and revenues for local services. At another level those who are closest to the natural resources should have the greatest understanding of the resource limitations as well as its potential, i.e., the

environmental problem areas of the town. Yet this latter system of land use management is really only just emerging in a formal way.

People who should be most interested in, and knowledgeable of, an area proposed for some of the larger scale projects discussed in the succeeding pages of this paper do not always appear at the public hearings where public opinion is really needed in order that a unit of the formal system, such as a Planning and Zoning Commission or a state agency, may adopt a unified, representative, stand on a proposed project. In the specific case studies which follow, it is clear that people historically avoid public hearings, especially if they are in support of the project. This is so even if they oppose a project, or at best, are not sure of their position. Some certainly remain at home due to the weather; others believe that if any issue is controversial enough, in an area of several hundred thousand residents such as Southeastern Connecticut, someone else will surely attend. Some may feel intimidated due to social pressures or a lack of knowledge on a particular subject, while a great many others may feel that their opinion won't make any difference anyway.

Probably one of the single most controversial issues* ever to hit Southeastern Connecticut is the proposal for the development of an oil refinery installation in Montville. At an informational meeting conducted by the In-O-Ven Corporation, proponents of the project, early in 1975, barely 200 persons in a region of 250,000 attended. How does one explain such a phenomenon and what are the key elements which influence it?

While the weather will always exist as a factor to explain such behavior, the latter two conditions mentioned above constitute a dangerous situation. As land use questions become increasingly more complex, normally concerned citizens will find that they are becoming increasingly lost in the maze of agencies with which to register that concern. Point three as discussed above is true in part, depending on the particular issue, but staying away from public meetings and hearings will not bring about an improvement in the rather deficient permit system as it exists today. What is at issue here is that the formal permit system is, or can be, influenced through citizen involvement. Therefore, the creation of a formal municipal role in the permit procedure could do much to correct this poor situation.

* The Jetport Industrial City proposed 6-8 years ago may rank, in recent history, as the most controversial development issue for the area.

Finally, it is clear that public participation in land use decision-making is important and critical to the outcomes of such decisions. A great amount of influence and power still exist at the local level in both formal and informal capacities. If it is not presently recognized, attempts to change these present systems of influence by installing a new, formal coastal area management system should make this very clear.

THE CASE STUDIES

Thames River Dredging By The U.S. Navy

In May 1973, the U.S. Navy stated its intent, in its revised draft Environmental Impact Statement, to widen and deepen the existing navigational channel of the Thames River from the Submarine Base in Groton to the river mouth at Long Island Sound, a distance of 7.5 nautical miles. A total of 2.8 million cubic yards of dredged spoil material was to be removed from the river and was proposed at that time to be dumped three miles off Newport, Rhode Island, in Block Island Sound.

Considerable opposition from the Rhode Island Department of Natural Resources resulted in a change of dumpsite to the old New London dumping grounds, approximately one mile off New London, Connecticut. This change of dumpsite was indicated in the December 1973 Final Environmental Impact Statement, although the reasons for that change were not indicated in that Impact Statement.

From the beginning, the Thames River Dredging Project was a federally inspired project, with no State of Connecticut DEP permits required.* Any comments from DEP, then, could be regarded as purely advisory. Permits required included a dredging and dumping permit from the U.S. Army Corps of Engineers (ACOE), with dumping to occur at one of the federal Environmental Protection Agency's (EPA) approved aquatic dumping grounds.

The transcript of the public hearing conducted by the Navy Department during the summer of 1973 revealed virtually no municipal opposition to the proposed dredging of the Thames River.** Few could refute the national defense argument, since the reasons for dredging were primarily to accommodate the new, deep-draft submarines now being constructed at General Dynamics Electric Boat Division in Groton. In addition, the dumpsite suggested early in June 1973 was still the Block Island dumping gound which was far from the shores of New London and environs. As the summer progressed and Rhode Island's firm opposition to that site was established and recognized, the New London dumping grounds became the new choice of the Navy.

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* Mr. E. Zell Steever, Director of Water and Related Resources Division, DEP, Hartford, personal communication.

** Final Environmental Impact Statement, August 28, 1973, Public Hearing on Dredging, Vol. 2. Department of the Navy, December, 1973.

Though some local concern was expressed over polluted dredge spoils washing up on Ocean Beach Park in New London, official comment from the local municipalities was not required by the Navy. Basic sentiment remained in favor of the dredging in Connecticut, and since it was not required, no official comment from DEP was made.* Fishers Island, New York residents complained more loudly than Connecticut residents and fears were expressed that since the New London dumping grounds were so close to the "Race" (an area of fast current in Long Island Sound) there was a possibility that "Race" currents would carry the spoil material to Fishers Island shores. New York residents and environmental agencies such as the Natural Resources Defense Council, and the New York State Department of Environmental Conservation, came out in opposition to the New London dumping grounds site stating a number of environmental concerns as reason for that position.**

In April 1974, the ACOE issued a dredge permit to the Navy, and the Thames River dredging project commenced four months later. Time had been described as extremely critical by the Navy; the dredging would take two years to complete, and the project must be completed in time to meet the submarine schedule.

The "timeliness" of the dredging, stemming from the difficult-to-counter national defense argument, became the dominant issue, quite overshadowing the environmental impacts surrounding the dredging (and most especially, the dumping issue).

The height of DEP and local concern in Connecticut peaked nearly four months after the actual dredging permit was granted. A series of federal court hearings conducted in late summer and fall of 1974 by the Federal District Court in Hartford exposed serious contradictory testimony from local marine scientists and oceanographers who admitted that although long-term effects of polluted spoils upon specific marine organisms as well as the food chain were difficult to assess, they could predict with some certainty and factual data that "dredged spoil dispersal does occur, and that pollution is taken in by filter-feeding shellfish, and other burrowing and bottom-dwelling (benthic) organisms".***

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* E. Zell Steever, Director of Water and Related Resources Division, DEP, Hartford, personal communication.

** Final Environmental Impact Statement, Vol. 2., Department of the Navy, December, 1973.

*** Dr. Frank Bohlen, Univ. of Connecticut, Professor of Oceanography, New London Day, 9/13/74.

Other similar testimony by environmentalists and scientists continued into the fall of 1974 and ultimately resulted in a petition filed by the National Resources Defense Council, Inc., of New York, who sought a federal injunction against dumping the dredge spoils at the New London Dumping Grounds.

Formal DEP opposition to the use of the New London Dumping Grounds in letters to ACOE and EPA occurred almost simutaneously with the Federal District Court's denial of the dumping infunction in December of 1974. The DEP cited mounting local opposition to the site as its reasons for filing opposition. Judge M. Joseph Blumenfeld, who handed down the Federal District Court decision to deny the injunction, rejected the Defense Council's challenge that the New London Dumping Grounds was chosen in "an arbitrary or capricious manner", and furthermore reiterated the ACOE and EPA guidelines that require that sound environmental data be presented that proves beyond reasonable doubt that any present dumping site is inadequate in any way.*

The ironic aspect of this sequence of events is that as soon as the New London Dumping Ground became the official Navy choice for spoil disposal the DEP should have collected the kind of environmental data and testimony (which surfaced during the fall of 1974) during the summer of 1973, and made its formal opposition known to the ACOE, EPA, and the Navy Department. Although the DEP role in this (or any federal) project is theoretically advisory, one wonders what the outcome would have been had formal opposition from DEP come to EPA and ACOE early in the federal permit proceedings (specifically during the public hearing in August of 1973). Might this have resulted in the choice of a new dumpsite agreeable to the Navy, ACOE, EPA, and the environmental protection agencies of Connecticut, Rhode Island, and New York?

Once the dredge permit was issued, the burden of proof rested with the EPA to show why the spoil disposal site was inadequate. Without proven, scientific data, the EPA was powerless to halt the dredging. The court decision handed down by the Federal District Court was based upon a lack of any such conclusive evidence.

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* From a newspaper article entitled, "Federal Judge Refuses to Stop Long Island Dredge Spoils Dumping", The Day, New London, 12/14/74.

Consequently, what this case-study demonstrates is the basic lack of a formal role for towns in the decision-making process to avert, or even influence, certain types of actions. While these process in the formal permit system are seemingly immune to outside non-technical influences at the present, the example demonstrates that this is not always the case. Obviously, with no clear role or access to competent technical assistance, the town was "caught short" in a formal way leaving the task to loosely aggregated citizens in an informal way.

In our opinion, the dynamics of the various roles played by the various parties in this example were crucial to the final outcome.

Millstone Nuclear Power-Generating Plants

In 1968-69, the Connecticut Water Resources Commission* conducted a series of public hearings to collect testimony from private citizens and industry in order to measure the "need" and "desirability" for an atomic power-generating plant in the Southeastern Connecticut region, as well as to gather other factual testimony regarding the technical mechanics and operation of such a facility. The hearings came as a result of a proposal by the Northeast Utilities Company to construct an atomic power generating plant in Waterford, Connecticut, on what was known as Millstone Point, the site of a former quarrying operation.

During the course of the hearings, although private citizen attendance was small, technical testimony was presented which confirmed the need for additional power-generating facilities in the Region.** In addition, a positive case for atomic power was presented. It will be remembered that in the 1950's and the 1960's, atomic power was generally regarded as cheap, clean, and safe. Radiation contamination was not widely recognized and as such generated little discussion among local officials and the general public.*** The real fears of radiation effects were more associated in the mind of the public with destructive forces such as atomic bombs and were not generally associated with "controlled" nuclear fission such as that which occurs in the nuclear power generating plant.

Although the federal Atomic Energy Commission (AEC) had the final permit-granting authority which allowed the construction of the Millstone I atomic power plant to begin, a number of federally required state permits preceded the final AEC decision.

The state-federal permit procedure in existence in 1969 required certain background information pertaining to the proposed atomic plant and was necessary to making final permit-granting decisions to be gathered at the state level. At the close of the Millstone plant hearings, the Water Resources Commission, drawing upon other state level technical expertise as well, reviewed all testimony received. Satisfied that all water pollution criteria would be adequately met, the Commission

* The Water Resources Commission was under the former Department of Agriculture and Natural Resources, and is not included in the Department of Environmental Protection.

** Mr. Jack Curry, Hearing Examiner, Millstone Point Power Plant Hearings, DEP.

*** Ibid.

granted the necessary water quality permits for Unit I of the Millstone atomic power plants including dredging, structures (intake and outfall for coolant water), and stream discharge, in August of 1969.* Once state environmental criteria were satisfied, the Public Utilities Commission (PUC), granted its permit for power generation.

On the federal level, as the Millstone plant was a proposed coastal installation, an additional dredging permit was granted from the ACOE, as well as a water discharge permit from EPA. Final AEC approval for Unit I of the Millstone atomic power plant was granted in 1969 after all other state and federal permits had been granted, and after the AEC determined that the plant design and radiation emmission standards would be met.

Today, despite new evidence and mounting public awareness over the safety of atomic power relative to radiation contamination and its cumulative effects upon man and the food chain, the federal government, and the power companies alike are still promoting atomic power as cheap, clean, and safe. In recent newspaper accounts, the federal government has indicated the need to build more (multiple reactor) atomic power-generating plants throughout the U.S. Such a policy (articulated in an article which appeared in an April issue of the New London Day) constitutes a formal pressure on the Connecticut, and nearby New York, Long Island, and Rhode Island coastal areas which house the tremendous populations who are in need of electrical power and provide the largest pool of sites to house such power generating stations.

The popular arguments put forth by the federal government are threefold. First, nuclear power is needed to respond to the national objective of an eventual end to U.S. dependence on foreign oil. Second, fuel bills to customers should be substantially lower as nuclear power sources are advertised as lower in cost than oil, and so are not subject to the fuel adjustment charges which have burdened many east coast electrical customers. Third, in view of the two "unquestionable" arguments presented above, the construction of planned nuclear installations should go forward without delay, and new installations should be planned immediately so as to adequately provide for the nation's power needs into the future.

* Mr. Richard Barlow, Water Compliance Division, DEP.

In summary, the addition of an atomic power-generating plant into the coastal area of southern Connecticut came as a result of existing local regulations,* and the organized state and federal permit system. Although public interest (in terms of 1969 attendance at the state public hearings) was minimal,** the actual impact of a concerted citizen opposition to this or any other atomic power plant in Connecticut would be difficult to assess. Legally, there was not in 1969, nor is there in 1975, any statutory vehicle for citizen concern nor is there a legally defined municipal role or local permit required (other than zoning and wetlands and building and health permits) with regard to such project proposals as the Millstone Plant or the Thames River Dredging case. Again, as shown in this example, the formal role played by the municipality itself was ambiguous at best since zoning had been settled prior to the proposal. Once a use is permitted and a proposal is submitted to the Planning and Zoning Commission, a town cannot, by any means, including a town-wide referendum, remove that use from the town zoning regulations.***

The conclusions drawn from this example then are twofold. 1) Had the public had greater knowledge of the effects of nuclear radiation, the proposal might have been affected. 2) The only thing at the local level which could prohibit such a project is (local) planning and zoning. Related to this in an indirect way is the (lack of) relationship of the surrounding towns to this project. While the surrounding towns are undoubtedly affected by the environmental, social, and economic impact of the facility, they have virtually no role at all in the siting of the facility. In a strictly private endeavor of large magnitude even the Regional Planning Agency might not have any review role and therefore could not even act indirectly as an advocate for the interests of the surrounding towns. In the case of Millstone, the use of atomic energy required a federal permit which in turn required an environmental impact statement which was subject to a review by the Regional Planning Agency. Yet even at that level, a highly technical review was required and would not necessarily have touched the social and economic issues of concern.

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* At the time of the Millstone Atomic Plant proposal, the Waterford Zoning Regulations listed "public utility generating plants uses and facilities appurtenant thereto" (Sec.5,1.9) as a permitted industrial use. The Millstone Point site was already industrially zoned as it was a former quarrying operation. Waterford Zoning Regulations, December 1966, Revised October, 1972.

** Jack Curry, 1969, 1974 Millstone Hearings Examiner, personal communication.

*** Connecticut Supreme Court, Martin J. O'Meara, Jr., Trustee V. City of Norwich, November, 1974, Connecticut Law Journal, Feb. 11, 1975, Vol. XXXVI No. 33.

Oil Refinery Potential

There exists in southeastern Connecticut the potential for the development of an oil refinery in close proximity to the coastal area. Although no formal application for a zone change has been submitted, a number of informal overtures in the form of general information meetings, press releases, etc., have been made to the town of Montville and the citizens of Southeastern Connecticut. In short, the In-O-Ven Corporation of Old Greenwich, Connecticut, has indicated interest in securing land options, with the intent of constructing a 400,000 barrel* per day oil refinery in the town of Montville.

The proposal, though first aired in April of 1974, now a full year later, is no more formal than it was then. The New London Day newspaper has followed the developments as closely as possible. In summary, some present landowners of property within the proposed In-O-Ven site have indicated publicly that they have granted land options to In-O-Ven on their respective properties. Public opinion concerning the refinery proposal, aired individually at the various public informational hearings, or in newspaper coverage of these meetings as well as letters to the editor, has been overwhelmingly negative. Personal testimonies have ranged from the emotional, "I don't want it in my backyard", to the more researched type of statement assessing real costs to the town in terms of increased public services, facilities and probable environmental damage.

The reality of an oil refinery for Montville will begin if the In-O-Ven Corporation secures ownership of the proposed site and if they request a formal zone change from "residential" to "industrial" for the proposed construction. Although the town Planning and Zoning Commission has the legal authority to grant or deny the zone change,** if granted, construction of the oil refinery cannot begin without formal approval from DEP in the form of a series of permits. As in the Millstone Power

* It should be noted that no such refinery of comparable scale exists anywhere in the World today.

** A bill was introduced by Senator Richard Schneller in this session of the Connecticut General Assembly, if passed in its proposed form, it would require a regional referendum within a 25 mile radius on the decision to permit an oil refinery to locate in a town. Such a referendum would, in a sense, supercede the present authority of the Planning and Zoning Commission. The status of the bill as of this writing is that the referendum would be limited to the town in which such a facility was slated for construction.

Plant case, the permits will be granted only if the In-O-Ven refinery plan can satisfy specific environmental criteria.

If the proposed refinery will be an inland installation (as the proposed Montville site is), DEP permits in the areas of Inland Wetlands, Water Quality, and Air Quality* will be required. The Power Facilities Evaluation Council (PFEC) would grant the permit for any proposed pipelines. In the case of a refinery that will be sited on the coast, or will have port facilities located on the coast (as the Montville site is proposed to include) a state DEP permit for Water Quality and Tidal Wetlands is required in addition to several federal permits from the EPA, and the ACOE.** Any dredging for large draft tankers or other coastal facilities would follow the permit procedures described under the Thames River Dredging case review.

Initial response in Montville thus far among the Board of Selectmen, the various town Commissions, and the public in general toward the oil refinery was at first mixed and then not favorable. The early positive response came from development-oriented individuals and Chambers of Commerce who tended to see the proposal exclusively in terms of revenue. The negative response embraced several things - 1) fear of such a large-scale operation; 2) a lack of technical expertise at the local level to understand and evaluate the many, serious environmental impacts which would be incurred by an oil refinery; 3) unfamiliarity with oil refineries, having no basis for comparison, and finally 4) having no tangible oil refinery plan submitted by In-O-Ven, it was difficult to seriously consider such an unknown entity.

Should the In-O-Ven refinery proposal reach a more tangible status the Planning and Zoning Commission, the Inland Wetlands Agency and the town can make a request to the DEP for competent, technical advice. If that time ever comes, the public referendum bill may already be Connecticut Law, thus removing the responsibility and full burden of decision-making from the Planning and Zoning Commission.

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* Federal air quality and emissions standards for particulates, sulfer oxides, and carbon monoxide, would be met in the state air quality permit. In addition, as mandated by the Clean Air Act, DEP would have the power to regulate and monitor the construction and operation of the refinery with regard for specific performance standards.

** Report of the Governor's Fact-Finding Task Force on Oil Refineries, Pages 348-357, January 6, 1975, Hartford.

The conclusions of this case study give us some valuable clues relative to the limits of the sphere of influence in the siting of large facilities. If all that stands between an oil refinery and a local community is planning and zoning, then there is nothing that stands between the facility and the region, except the particular town. Should the town not find the development (of a refinery) objectionable, then there is little that the region can do to prevent it. The model can also be reversed as in a situation where this region feels that certain large scale development would be beneficial and the town finds it objectionable. Each of these situations leads us to believe that the final determination of land use as it relates to a sphere of interest (the national interest in the coastal zone) is a highly complicated endeavor which cannot simply be taken at face value.

Bluff Point State Park

In 1963, the State of Connecticut bought approximately 250 acres of beach, tidal marsh, and some associated wooded upland on an unspoiled shoreline point in Groton, Connecticut. The remaining 550 acres of what was regarded as "Bluff Point" remained in the hands of the private landowner from which the first portion was purchased. In the succeeding years the State decided to purchase the remaining acreage from the owner, but no price could be agreed upon between the two parties. Finally in 1974, the State condemned the property, took the remaining acreage and provided compensation to the former landowner. Today the State owns all of Bluff Point, which is the largest such undeveloped piece of land remaining on the Connecticut coast.

A legislative mandate, in the form of a joint resolution of the House and Senate in the 1972 session of the Connecticut General Assembly, created the Bluff Point Advisory Council. Specifically, the Environment Committee (composed of State Senators and Representatives) was directed to appoint ten interested citizens from the Town of Groton who would serve voluntarily on this council and who would make recommendations concerning the "environmental development of Bluff Point State Park as a coastal preserve for purposes of recreation and tourism."*

The Advisory Council was to communicate with local officials as well as other environmentally-oriented organizations such as the Thames Science Center, in order to develop specific recommendations for Bluff Point State Park, and to communicate on a regular basis with the Environment Committee and the Parks and Recreation Division of DEP. The Bluff Point Advisory Council has to this date conducted meetings and made known its recommendations for the use of Bluff Point State Park to the Environment Committee, DEP, and the general public.

* Mr. William Miller, Parks and Recreation Division, DEP, personal communication.

Whatever controversy exists today revolves around the use of Bluff Point State Park. Until last year, Bluff Point was largely ignored. The general public, and the DEP as well, seemed fairly content to let Bluff Point remain in its natural state. (There are several packed earth trails around the perimeter and the upland sections of the Point, in addition to tidal marshes and a mile long sand spit beach on the west side of the peninsula. It is common for boaters to moor off Bluff Point Beach in the summer and swim there). As soon as the State acquired the remaining upland acreage the public interest grew and has been spurred largely by a bill introduced in this session of the Connecticut General Assembly by Rep. Patricia Hendel.

Rep. Hendel's bill embodies the chief recommendations of the Bluff Point Advisory Council. It seeks to permanently designate Bluff Point as a state reserve which will have the effect of maintaining the passive recreation status that the Park currently holds. Recent newspaper accounts indicate that Groton and the surrounding towns are divided in their feelings toward the bill, as they are divided in their feelings toward the Bluff Point Advisory Council.

The opposing forces declare that State funds allocated for the purchase of the first 250-acre Bluff Point purchase of beach, tidal marsh, and upland, were allocated for purposes of intensive recreation for the general public of the State. While DEP officials have not publicly denied this, they have also not yet announced their recommendations for future use of Bluff Point. Consequently, DEP has indicated a preferrence to see passage of Rep. Hendel's bill delayed, indicating that they would appreciate the chance to air their plans for the Park, and would prefer not to be bound by such legislation at this particular time.*

Public opinion in the form of general newspaper coverage and letters to the editor have tended to support the preserve/passive recreation intent of Rep. Hendel's bill. Critics of the Hendel bill complain that it reflects very little public input outside of the Bluff Point Advisory Council. Some undecided members of the local populace indicate a preference to hear DEP's park plan rather than be forced to respond to legislative mandate for future development of Bluff Point State Park.

Pressure for more public beaches and beach access is really the central issue which has not been adequately addressed by the Bluff Point Advisory Council or

* From a newspaper article entitled, "Bampton Favors Delay on Bluff Point Bill", The Day, New London, April 9, 1975.

Rep. Hendel's bill. If brought to a vote throughout Connecticut, the general public would probably vote for increased state ownership of shoreline property, with special emphasis on beach development.

Unfortunately, in the case of Bluff Point, the very delicate nature of the sand spit beach, dependent upon the fragile dune grass population for its continued existence (refer to paper #2 which examines the natural resource base of the coastal zone), may not be able to withstand the heavy beach use by an overenthusiastic beach-going public.

The conclusions with respect to the Bluff Point study demonstrates in "three dimensions" the reality of the competition for coastal land and the contradictions with which a coastal zone management program will have to contend. While on the one hand it is clear that environmentally, the area would be better left "unspoiled", the expenditure of state tax dollars implies that the benefits of such should be equally shared amongst all the people in the state who pay taxes. The related question here is the appropriateness of establishing a special committee outside of any local or state governmental framework. Clearly this Committee was not accountable to either local or government nor were they even representative of the various interests involved. Undoubtedly the recommendations of the Committee would have been entirely different had the Committee been comprised of inland residents from all over the state rather than exclusively Groton residents. Such an approach effectively assumes that the expenditure of state tax dollars is for the exclusive benefit of Groton residents only.

This case dramatically emphasizes the fact that Connecticut's coast is still more or less an exclusive commodity. With access to this commodity as limited as it is, surely this aspect must take importance in any coastal zone management program undertaken in the name of the public.

CONCLUSIONS

Clearly, there is always an informal system of communication which works along side of the formal system to influence the outcome of various decisions. What has been difficult to evaluate here is how effective that communication is when it becomes channeled through public hearings during the formal permit procedure carried out by the state or federal government. Although it appears from the case studies that environmental or other technical criteria constitute the sole basis for final permit granting, there is some indication that the importance of these criteria can be reduced in the face of strong public opposition of a non-technical nature at the very early stages of project development. This suggests the need for some kind of a formal (reliable) "early warning system" which alerts the public to potential change. Thus, if there are apparent weak areas in the overall system of granting permits, they generally occur in the early stages of the development of these projects and can be defined as little or no formal opportunity to influence the project by the population who stands to be directly affected. Conversations held with a variety of DEP officials from various divisions all indicate that in cases of widespread public apathy, the permit procedures simply run their formal, technical course, leading to the conclusion that an alert public could be a formidable force in shaping major development projects for a community. Perhaps the greatest weakness in the current permit procedure is the lack of any formal municipal role which encourages and focuses this type of input. As illustrated in the Thames River dredging and the Millstone Atomic Power Plant cases, the town or towns involved possess no local permit granting authority of a non-specialized nature other than that which comes indirectly through planning, zoning, wetlands, or health or building permits. As mentioned earlier, a special local "sanction permit" could logically consider human (socio-economic) impacts for specific project proposals as well as environmental impacts. This is especially important in the coastal area where the concept of "ownership" is expanding. Town officials and citizens have an understanding of local problems as well as local needs and should be able to take a formal town-wide position on a specific project. Moving this logic up a step, the same can be said for a region of surrounding towns which is to be affected by the siting of a large scale facility or any other activity or development which will have a direct impact on the way of life.

The one similar weakness illustrated by each of the case studies is clearly the lack of a legitimate vehicle for non-technically oriented local concern over a

proposed project. Nowhere in the current permit procedure is there legal accommodation for such concern. The impacts for proposed projects are reviewed largely from a rigid technical/environmental point-of-view whereas social and economic impacts upon the local populations are not formally assessed. *Yet these are precisely the factors to which citizens most commonly respond.* The oil refinery is a good case in point. As long as it can be demonstrated that environmental standards can be adequately met, permits will be granted. Yet there is a fundamental (technical) distinction between the economic impact of refinery, and the air pollution, risks associated with oil spillage, and other aspects of plant operation which can be projected and around which permits are issued. Yet, while public awareness of these aspects continues to grow, access to the decision-making process becomes more remote as the technical factors become even more complex. Until a provision is made in the permit procedure for some kind of a public-oriented warning system, and the assessment of impacts other than environmental, in the final analysis, concerned citizen testimony (when given) will continue to be outweighed and overshadowed by the more technical considerations. Formal consideration in the permit process must be given to the human impacts of a proposed major installation-specifically the social and economic stresses and changes to be incurred by new developments in the coastal area. In short we believe these could and should be handled through an expanded permit system which provides for local and extra-local (regional) input.

Any statutory requirements for such a system should include specific provision for: 1) coordination of representatives from all town agencies, commissions, officials and citizens into one unit responsible to, and chaired by, the town chief executive or his designee and assigned the task of adopting a unified town position regarding a specific project proposal; 2) coordination of town units into a regional unit; 3) local access to technical and environmental expertise from the various existing state and regional agencies; 4) access to funding which would permit towns to seek expert analytical advice regarding environmental, technical, social, or economic impacts of specific project proposals affecting the town or the region; and 5) the statutory right and requirement to issue a local permit regarding a specific project proposal as a result of a required town-sponsored public hearing which shall make known to the general public any environmental, technical, social, economic, or other data assembled by this town unit or task force. Such a task force shall receive testimony from town citizens regarding this data and the specific project proposal.

These recommendations would enable a town and a region to organize itself into an effective and recognized (statutorily speaking) unit which could review all aspects and impacts of a specific project proposal, review public opinion regarding such a proposal, and culminate in the granting or denial of a local or regional permit for such a proposal.

The essence of the model we are developing, then, is one of shared power rather than centralized, fixed control at any level; municipal, state or otherwise. With this in mind, two procedures will gain prominence in the final recommended coastal zone management model. They are 1) the process of petitioning for an aggrieved party and 2) the process of decision override. Each of these will be developed more fully in the final report.

Areas of citizen "concern" can only grow. The coastal area is accessible by land, by sea, and by air. It is well-served by a variety of transportation modes such as roads, railroads, ships, airplanes. As such, it is a desirable location for many things and it is the market place for almost everything.

Additional pressures on the coastal zone from the land, the sea, and the air are yet to come. In addition to expansion of existing coastal facilities (as with the new research facility for the U.S. Coast Guard Academy) and at General Dynamics-Electric Boat Division, the U.S. navy Submarine Base, the Connecticut State Pier, and Trumbull Airport, there is the potential for new facilities development in areas such as off-shore drilling for oil, refineries, supertankers, jetports and more. With regard for the potential of new facilities development projects, the local environmental assessments will be extremely difficult to make, and the citizen "concern" level will reach a new high. It would be advisable to develop an impact-measuring mechanism for these concerns at the local level before such facilities-proposals reach Connecticut shores.

APPENDIX 2

SOUTHEASTERN CONNECTICUT
REGIONAL PLANNING AGENCY

139 Borwell Avenue, Norwich, Connecticut, tel. 889-232

10 October 1974

To: Concerned Municipal Officials and Other Interested Parties

From: Gurdon Slosberg, Chairman

Re: Coastal Zone Management Study for Southeastern Connecticut

The Southeastern Connecticut Regional Planning Agency (SCRPA) has received a grant from the Connecticut Department of Environmental Protection (DEP) to conduct a one year pilot study in Southeastern Connecticut. The main objective of the pilot study is the development of recommendations by which local government and regional planning agencies can more effectively be involved in the coastal zone management process using that area bordering Long Island Sound and the Thames River estuary in the Southeastern Connecticut region as the study area. The SCRPA study will be part of a three year DEP coastal zone study program made possible by federal legislation known as the Coastal Zone Management Act of 1972.

When ultimately defined, the coastal zone in Southeastern Connecticut will include a significant amount of land bordering on Long Island Sound and the Thames River. Nine towns in Southeastern Connecticut stand to be directly affected by the coastal zone land use policies and procedures developed by the State. Fortunately, the special SCRPA study will provide an opportunity for local officials in this region to express their needs, concerns and views to the State and potentially influence the overall design of the state coastal zone management program.

It is the intent of this correspondence to ascertain the degree of interest among local officials in those nine towns in participating with SCRPA on a special coastal zone task force. The purpose of the task force shall be to aid in the development of the state coastal zone management program by the identification of coastal-related pressures and problems, definition of the coastal zone and the recommendation of policies and administrative guidelines for the eventual State legislation on Coastal Zone Management. The task force is tentatively scheduled to meet monthly from November, 1974, through May, 1975.

Attached to this correspondence please find a self-addressed stamped postcard on which to indicate your interest in participating (or not) on the task force. In the event that you are interested but unable to join the task force, please designate an alternate to represent your municipal commission.

Also enclosed is a Summary Sheet of the federal Coastal Zone Management Act of 1972 to provide you with additional background material on the content and purpose of the coastal zone legislation.

Should you have any questions concerning the Pilot Study or the task force, please do not hesitate to contact Richard Guggenheim or Linda Simkanin at the SCRPA office.

Enclosures

Public Law 92-583
92nd Congress, S. 3507
October 27, 1972

An Act

To establish a national policy and develop a national program for the management, beneficial use, protection, and development of the land and water resources of the Nation's coastal zones, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act entitled "An Act to provide for a comprehensive, long-range, and coordinated national program in marine science, to establish a National Council on Marine Resources and Engineering Development, and a Commission on Marine Science, Engineering and Resources, and for other purposes", approved June 17, 1966 (80 Stat. 203), as amended (33 U.S.C. 1101-1124), is further amended by adding at the end thereof the following new title:

Marine Resources and Engineering Development Act of 1966, amendment.

80 Stat. 998; 84 Stat. 865.

TITLE III—MANAGEMENT OF THE COASTAL ZONE

SHORT TITLE

SEC. 301. This title may be cited as the "Coastal Zone Management Act of 1972".

CONGRESSIONAL FINDINGS

SEC. 302. The Congress finds that—

(a) There is a national interest in the effective management, beneficial use, protection, and development of the coastal zone;

(b) The coastal zone is rich in a variety of natural, commercial, recreational, industrial, and esthetic resources of immediate and potential value to the present and future well-being of the Nation;

(c) The increasing and competing demands upon the lands and waters of our coastal zone occasioned by population growth and economic development, including requirements for industry, commerce, residential development, recreation, extraction of mineral resources and fossil fuels, transportation and navigation, waste disposal, and harvesting of fish, shellfish, and other living marine resources, have resulted in the loss of living marine resources, wildlife, nutrient-rich areas, permanent and adverse changes to ecological systems, decreasing open space for public use, and shoreline erosion;

(d) The coastal zone, and the fish, shellfish, other living marine resources, and wildlife therein, are ecologically fragile and consequently extremely vulnerable to destruction by man's alterations;

(e) Important ecological, cultural, historic, and esthetic values in the coastal zone which are essential to the well-being of all citizens are being irretrievably damaged or lost;

(f) Special natural and scenic characteristics are being damaged by ill-planned development that threatens these values;

(g) In light of competing demands and the urgent need to protect and to give high priority to natural systems in the coastal zone, present state and local institutional arrangements for planning and regulating land and water uses in such areas are inadequate; and

(h) The key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states to exercise their full authority over the lands and waters in the coastal zone by assisting the states, in cooperation with Federal and local governments and other vitally affected interests, in developing land and water use programs for the coastal zone, including unified policies, criteria, standards, methods, and processes for dealing with land and water use decisions of more than local significance.

DECLARATION OF POLICY

SEC. 303. The Congress finds and declares that it is the national policy (a) to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations, (b) to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and esthetic values as well as to needs for economic development, (c) for all Federal agencies engaged in programs affecting the coastal zone to cooperate and participate with state and local governments and regional agencies in effectuating the purposes of this title, and (d) to encourage the participation of the public, of Federal, state, and local governments and of regional agencies in the development of coastal zone management programs. With respect to implementation of such managament programs, it is the national policy to encourage cooperation among the various state and regional agencies including establishment of interstate and regional agreements, cooperative procedures, and joint action particularly regarding environmental problems.

DEFINITIONS

SEC. 304. For the purposes of this title—

(a) "Coastal zone" means the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal states, and includes transitional and intertidal areas, salt marshes, wetlands, and beaches. The zone extends, in Great Lakes waters, to the international boundary between the United States and Canada and, in other areas, seaward to the outer limit of the United States territorial sea. The zone extends inland from the shorelines only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters. Excluded from the coastal zone are lands the use of which is by law subject solely to the discretion of or which is held in trust by the Federal Government, its officers or agents.

(b) "Coastal waters" means (1) in the Great Lakes area, the waters within the territorial jurisdiction of the United States consisting of the Great Lakes, their connecting waters, harbors, roadsteads, and estuary-type areas such as bays, shallows, and marshes and (2) in other areas, those waters, adjacent to the shorelines, which contain a measurable quantity or percentage of sea water, including, but not limited to, sounds, bays, lagoons, bayous, ponds, and estuaries.

(c) "Coastal state" means a state of the United States in, or bordering on, the Atlantic, Pacific, or Arctic Ocean, the Gulf of Mexico, Long Island Sound, or one or more of the Great Lakes. For the purposes of this title, the term also includes Puerto Rico, the Virgin Islands, Guam, and American Samoa.

(d) "Estuary" means that part of a river or stream or other body of water having unimpaired connection with the open sea, where the sea water is measurably diluted with fresh water derived from land drainage. The term includes estuary-type areas of the Great Lakes.

(e) "Estuarine sanctuary" means a research area which may include any part or all of an estuary, adjoining transitional areas, and adjacent uplands, constituting to the extent feasible a natural unit, set

aside to provide scientists and students the opportunity to examine over a period of time the ecological relationships within the area.

(f) "Secretary" means the Secretary of Commerce.

(g) "Management program" includes, but is not limited to, a comprehensive statement in words, maps, illustrations, or other media of communication, prepared and adopted by the state in accordance with the provisions of this title, setting forth objectives, policies, and standards to guide public and private uses of lands and waters in the coastal zone.

(h) "Water use" means activities which are conducted in or on the water; but does not mean or include the establishment of any water quality standard or criteria or the regulation of the discharge or runoff of water pollutants except the standards, criteria, or regulations which are incorporated in any program as required by the provisions of section 307(f).

(i) "Land use" means activities which are conducted in or on the shorelands within the coastal zone, subject to the requirements outlined in section 307(g).

MANAGEMENT PROGRAM DEVELOPMENT GRANTS

SEC. 305. (a) The Secretary is authorized to make annual grants to any coastal state for the purpose of assisting in the development of a management program for the land and water resources of its coastal zone.

(b) Such management program shall include:

(1) an identification of the boundaries of the coastal zone subject to the management program;

(2) a definition of what shall constitute permissible land and water uses within the coastal zone which have a direct and significant impact on the coastal waters;

(3) an inventory and designation of areas of particular concern within the coastal zone;

(4) an identification of the means by which the state proposes to exert control over the land and water uses referred to in paragraph (2) of this subsection, including a listing of relevant constitutional provisions, legislative enactments, regulations, and judicial decisions;

(5) broad guidelines on priority of uses in particular areas, including specifically those uses of lowest priority;

(6) a description of the organizational structure proposed to implement the management program, including the responsibilities and interrelationships of local, areawide, state, regional, and interstate agencies in the management process.

(c) The grants shall not exceed 66⅔ per centum of the costs of the program in any one year and no state shall be eligible to receive more than three annual grants pursuant to this section. Federal funds received from other sources shall not be used to match such grants. In order to qualify for grants under this section, the state must reasonably demonstrate to the satisfaction of the Secretary that such grants will be used to develop a management program consistent with the requirements set forth in section 306 of this title. After making the initial grant to a coastal state, no subsequent grant shall be made under this section unless the Secretary finds that the state is satisfactorily developing such management program. Limitation.

(d) Upon completion of the development of the state's management program, the state shall submit such program to the Secretary for

review and approval pursuant to the provisions of section 306 of this title, or such other action as he deems necessary. On final approval of such program by the Secretary, the state's eligibility for further grants under this section shall terminate, and the state shall be eligible for grants under section 306 of this title.

Grants, allocation.

(e) Grants under this section shall be allocated to the states based on rules and regulations promulgated by the Secretary: *Provided, however*, That no management program development grant under this section shall be made in excess of 10 per centum nor less than 1 per centum of the total amount appropriated to carry out the purposes of this section.

(f) Grants or portions thereof not obligated by a state during the fiscal year for which they were first authorized to be obligated by the state, or during the fiscal year immediately following, shall revert to the Secretary, and shall be added by him to the funds available for grants under this section.

(g) With the approval of the Secretary, the state may allocate to a local government, to an areawide agency designated under section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, to a regional agency, or to an interstate agency, a portion of the grant under this section, for the purpose of carrying out the provisions of this section.

80 Stat. 1262; 82 Stat. 208. 42 USC 3334.

Expiration date.

(h) The authority to make grants under this section shall expire on June 30, 1977.

ADMINISTRATIVE GRANTS

Limitation.

SEC. 306. (a) The Secretary is authorized to make annual grants to any coastal state for not more than 66⅔ per centum of the costs of administering the state's management program, if he approves such program in accordance with subsection (c) hereof. Federal funds received from other sources shall not be used to pay the state's share of costs.

Allocation.

(b) Such grants shall be allocated to the states with approved programs based on rules and regulations promulgated by the Secretary which shall take into account the extent and nature of the shoreline and area covered by the plan, population of the area, and other relevant factors: *Provided, however*, That no annual administrative grant under this section shall be made in excess of 10 per centum nor less than 1 per centum of the total amount appropriated to carry out the purposes of this section.

Program requirements.

(c) Prior to granting approval of a management program submitted by a coastal state, the Secretary shall find that:

(1) The state has developed and adopted a management program for its coastal zone in accordance with rules and regulations promulgated by the Secretary, after notice, and with the opportunity of full participation by relevant Federal agencies, state agencies, local governments, regional organizations, port authorities, and other interested parties, public and private, which is adequate to carry out the purposes of this title and is consistent with the policy declared in section 303 of this title.

(2) The state has:

(A) coordinated its program with local, areawide, and interstate plans applicable to areas within the coastal zone existing on January 1 of the year in which the state's management program is submitted to the Secretary, which plans have been developed by a local government, an areawide agency designated pursuant to regulations established under section 204 of the Demonstration

Cities and Metropolitan Development Act of 1966, a regional agency, or an interstate agency; and 80 Stat. 1262; 82 Stat. 208, 42 USC 3334.

(B) established an effective mechanism for continuing consultation and coordination between the management agency designated pursuant to paragraph (5) of this subsection and with local governments, interstate agencies, regional agencies, and areawide agencies within the coastal zone to assure the full participation of such local governments and agencies in carrying out the purposes of this title.

(3) The state has held public hearings in the development of the management program.

(4) The management program and any changes thereto have been reviewed and approved by the Governor.

(5) The Governor of the state has designated a single agency to receive and administer the grants for implementing the management program required under paragraph (1) of this subsection.

(6) The state is organized to implement the management program required under paragraph (1) of this subsection.

(7) The state has the authorities necessary to implement the program, including the authority required under subsection (d) of this section.

(8) The management program provides for adequate consideration of the national interest involved in the siting of facilities necessary to meet requirements which are other than local in nature.

(9) The management program makes provision for procedures whereby specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological, or esthetic values.

(d) Prior to granting approval of the management program, the Secretary shall find that the state, acting through its chosen agency or agencies, including local governments, areawide agencies designated under section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, regional agencies, or interstate agencies, has authority for the management of the coastal zone in accordance with the management program. Such authority shall include power—

(1) to administer land and water use regulations, control development in order to ensure compliance with the management program, and to resolve conflicts among competing uses; and

(2) to acquire fee simple and less than fee simple interests in lands, waters, and other property through condemnation or other means when necessary to achieve conformance with the management program.

(e) Prior to granting approval, the Secretary shall also find that the program provides:

(1) for any one or a combination of the following general techniques for control of land and water uses within the coastal zone;

(A) State establishment of criteria and standards for local implementation, subject to administrative review and enforcement of compliance;

(B) Direct state land and water use planning and regulation; or

(C) State administrative review for consistency with the management program of all development plans, projects, or land and water use regulations, including exceptions and variances thereto, proposed by any state or local authority or private developer, with power to approve or disapprove after public notice and an opportunity for hearings.

(2) for a method of assuring that local land and water use regulations within the coastal zone do not unreasonably restrict or exclude land and water uses of regional benefit.

(f) With the approval of the Secretary, a state may allocate to a local government, an areawide agency designated under section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, a regional agency, or an interstate agency, a portion of the grant under this section for the purpose of carrying out the provisions of this section: *Provided*, That such allocation shall not relieve the state of the responsibility for ensuring that any funds so allocated are applied in furtherance of such state's approved management program.

80 Stat. 1262; 82 Stat. 208, 42 USC 3334.

Program modification.

(g) The state shall be authorized to amend the management program. The modification shall be in accordance with the procedures required under subsection (c) of this section. Any amendment or modification of the program must be approved by the Secretary before additional administrative grants are made to the state under the program as amended.

Segmental development.

(h) At the discretion of the state and with the approval of the Secretary, a management program may be developed and adopted in segments so that immediate attention may be devoted to those areas within the coastal zone which most urgently need management programs: *Provided*, That the state adequately provides for the ultimate coordination of the various segments of the management program into a single unified program and that the unified program will be completed as soon as is reasonably practicable.

INTERAGENCY COORDINATION AND COOPERATION

SEC. 307. (a) In carrying out his functions and responsibilities under this title, the Secretary shall consult with, cooperate with, and, to the maximum extent practicable, coordinate his activities with other interested Federal agencies.

(b) The Secretary shall not approve the management program submitted by a state pursuant to section 306 unless the views of Federal agencies principally affected by such program have been adequately considered. In case of serious disagreement between any Federal agency and the state in the development of the program the Secretary, in cooperation with the Executive Office of the President, shall seek to mediate the differences.

(c)(1) Each Federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs.

(2) Any Federal agency which shall undertake any development project in the coastal zone of a state shall insure that the project is, to the maximum extent practicable, consistent with approved state management programs.

Certification.

(3) After final approval by the Secretary of a state's management program, any applicant for a required Federal license or permit to conduct an activity affecting land or water uses in the coastal zone of that state shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the state's approved program and that such activity will be conducted in a manner consistent with the program. At the same time, the applicant shall furnish to the state or its designated agency a copy of the certification, with all necessary information and data. Each coastal state shall establish procedures for public notice in the case of all such

certifications and, to the extent it deems appropriate, procedures for public hearings in connection therewith. At the earliest practicable time, the state or its designated agency shall notify the Federal agency concerned that the state concurs with or objects to the applicant's certification. If the state or its designated agency fails to furnish the required notification within six months after receipt of its copy of the applicant's certification, the state's concurrence with the certification shall be conclusively presumed. No license or permit shall be granted by the Federal agency until the state or its designated agency has concurred with the applicant's certification or until, by the state's failure to act, the concurrence is conclusively presumed, unless the Secretary, on his own initiative or upon appeal by the applicant, finds, after providing a reasonable opportunity for detailed comments from the Federal agency involved and from the state, that the activity is consistent with the objectives of this title or is otherwise necessary in the interest of national security. Notification.

(d) State and local governments submitting applications for Federal assistance under other Federal programs affecting the coastal zone shall indicate the views of the appropriate state or local agency as to the relationship of such activities to the approved management program for the coastal zone. Such applications shall be submitted and coordinated in accordance with the provisions of title IV of the Intergovernmental Coordination Act of 1968 (82 Stat. 1098). Federal agencies shall not approve proposed projects that are inconsistent with a coastal state's management program, except upon a finding by the Secretary that such project is consistent with the purposes of this title or necessary in the interest of national security. 42 USC 4231.

(e) Nothing in this title shall be construed—

(1) to diminish either Federal or state jurisdiction, responsibility, or rights in the field of planning, development, or control of water resources, submerged lands, or navigable waters; nor to displace, supersede, limit, or modify any interstate compact or the jurisdiction or responsibility of any legally established joint or common agency of two or more states or of two or more states and the Federal Government; nor to limit the authority of Congress to authorize and fund projects;

(2) as superseding, modifying, or repealing existing laws applicable to the various Federal agencies; nor to affect the jurisdiction, powers, or prerogatives of the International Joint Commission, United States and Canada, the Permanent Engineering Board, and the United States operating entity or entities established pursuant to the Columbia River Basin Treaty, signed at Washington, January 17, 1961, or the International Boundary and Water Commission, United States and Mexico.

(f) Notwithstanding any other provision of this title, nothing in this title shall in any way affect any requirement (1) established by the Federal Water Pollution Control Act, as amended, or the Clean Air Act, as amended, or (2) established by the Federal Government or by any state or local government pursuant to such Acts. Such requirements shall be incorporated in any program developed pursuant to this title and shall be the water pollution control and air pollution control requirements applicable to such program. Ante, p. 816. 81 Stat. 485; 84 Stat. 1676. 42 USC 1857 note.

(g) When any state's coastal zone management program, submitted for approval or proposed for modification pursuant to section 306 of this title, includes requirements as to shorelands which also would be subject to any Federally supported national land use program which may be hereafter enacted, the Secretary, prior to approving such pro-

gram, shall obtain the concurrence of the Secretary of the Interior, or such other Federal official as may be designated to administer the national land use program, with respect to that portion of the coastal zone management program affecting such inland areas.

PUBLIC HEARINGS

SEC. 308. All public hearings required under this title must be announced at least thirty days prior to the hearing date. At the time of the announcement, all agency materials pertinent to the hearings, including documents, studies, and other data, must be made available to the public for review and study. As similar materials are subsequently developed, they shall be made available to the public as they become available to the agency.

REVIEW OF PERFORMANCE

SEC. 309. (a) The Secretary shall conduct a continuing review of the management programs of the coastal states and of the performance of each state.

Financial assistance, termination.

(b) The Secretary shall have the authority to terminate any financial assistance extended under section 306 and to withdraw any unexpended portion of such assistance if (1) he determines that the state is failing to adhere to and is not justified in deviating from the program approved by the Secretary; and (2) the state has been given notice of the proposed termination and withdrawal and given an opportunity to present evidence of adherence or justification for altering its program.

RECORDS

SEC. 310. (a) Each recipient of a grant under this title shall keep such records as the Secretary shall prescribe, including records which fully disclose the amount and disposition of the funds received under the grant, the total cost of the project or undertaking supplied by other sources, and such other records as will facilitate an effective audit.

Audit.

(b) The Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access for the purpose of audit and examination to any books, documents, papers, and records of the recipient of the grant that are pertinent to the determination that funds granted are used in accordance with this title.

ADVISORY COMMITTEE

Coastal Zone Management Advisory Committee, establishment; membership.

SEC. 311. (a) The Secretary is authorized and directed to establish a Coastal Zone Management Advisory Committee to advise, consult with, and make recommendations to the Secretary on matters of policy concerning the coastal zone. Such committee shall be composed of not more than fifteen persons designated by the Secretary and shall perform such functions and operate in such a manner as the Secretary may direct. The Secretary shall insure that the committee membership as a group possesses a broad range of experience and knowledge relating to problems involving management, use, conservation, protection, and development of coastal zone resources.

Compensation, travel expenses.

(b) Members of the committee who are not regular full-time employees of the United States, while serving on the business of the committee, including traveltime, may receive compensation at rates not exceeding $100 per diem; and while so serving away from their

homes or regular places of business may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5, United States Code, for individuals in the Government service employed intermittently. 80 Stat. 499; 83 Stat. 190.

ESTUARINE SANCTUARIES

SEC. 312. The Secretary, in accordance with rules and regulations promulgated by him, is authorized to make available to a coastal state grants of up to 50 per centum of the costs of acquisition, development, and operation of estuarine sanctuaries for the purpose of creating natural field laboratories to gather data and make studies of the natural and human processes occurring within the estuaries of the coastal zone. The Federal share of the cost for each such sanctuary shall not exceed $2,000,000. No Federal funds received pursuant to section 305 or section 306 shall be used for the purpose of this section. Grants. Federal share.

ANNUAL REPORT

SEC. 313. (a) The Secretary shall prepare and submit to the President for transmittal to the Congress not later than November 1 of each year a report on the administration of this title for the preceding fiscal year. The report shall include but not be restricted to (1) an identification of the state programs approved pursuant to this title during the preceding Federal fiscal year and a description of those programs; (2) a listing of the states participating in the provisions of this title and a description of the status of each state's programs and its accomplishments during the preceding Federal fiscal year; (3) an itemization of the allocation of funds to the various coastal states and a breakdown of the major projects and areas on which these funds were expended; (4) an identification of any state programs which have been reviewed and disapproved or with respect to which grants have been terminated under this title, and a statement of the reasons for such action; (5) a listing of all activities and projects which, pursuant to the provisions of subsection (c) or subsection (d) of section 307, are not consistent with an applicable approved state management program; (6) a summary of the regulations issued by the Secretary or in effect during the preceding Federal fiscal year; (7) a summary of a coordinated national strategy and program for the Nation's coastal zone including identification and discussion of Federal, regional, state, and local responsibilities and functions therein; (8) a summary of outstanding problems arising in the administration of this title in order of priority; and (9) such other information as may be appropriate.

(b) The report required by subsection (a) shall contain such recommendations for additional legislation as the Secretary deems necessary to achieve the objectives of this title and enhance its effective operation.

RULES AND REGULATIONS

SEC. 314. The Secretary shall develop and promulgate, pursuant to section 553 of title 5, United States Code, after notice and opportunity for full participation by relevant Federal agencies, state agencies, local governments, regional organizations, port authorities, and other interested parties, both public and private, such rules and regulations as may be necessary to carry out the provisions of this title. 80 Stat. 383.

AUTHORIZATION OF APPROPRIATIONS

SEC. 315. (a) There are authorized to be appropriated—

(1) the sum of $9,000,000 for the fiscal year ending June 30, 1973, and for each of the fiscal years 1974 through 1977 for grants under section 305, to remain available until expended;

(2) such sums, not to exceed $30,000,000, for the fiscal year ending June 30, 1974, and for each of the fiscal years 1975 through 1977, as may be necessary, for grants under section 306 to remain available until expended; and

(3) such sums, not to exceed $6,000,000 for the fiscal year ending June 30, 1974, as may be necessary, for grants under section 312, to remain available until expended.

(b) There are also authorized to be appropriated such sums, not to exceed $3,000,000, for fiscal year 1973 and for each of the four succeeding fiscal years, as may be necessary for administrative expenses incident to the administration of this title.

Approved October 27, 1972.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 92-1049 accompanying H.R. 14146 (Comm. on Merchant Marine and Fisheries) and No. 92-1544 (Comm. of Conference).

SENATE REPORT No. 92-753 (Comm. on Commerce).

CONGRESSIONAL RECORD, Vol. 118 (1972):

Apr. 25, considered and passed Senate.

Aug. 2, considered and passed House, amended, in lieu of H.R. 14146.

Oct. 12, House and Senate agreed to conference report.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 8, No. 44:

Oct. 28, Presidential statement.

○

A SURVEY OF
COASTAL ZONE MANAGEMENT ISSUES AND PROBLEMS

- Need to integrate prospective coastal zone planning with ongoing land use planning.
- Inadequately treated wastes from municipal and industrial sources complicated by surface runoff are polluting coastal waters.
- Increased energy needs which require petroleum production in offshore waters and need large shoreland areas to accommodate refining and distribution.
- Lack of a manageable data base integrating past and present inventories and studies dealing with resource use conflicts and resource allocation.
- Limited marine-oriented recreational opportunities and facilities accessible to the public.
- Population density and growth pressures which threaten wetlands, beaches, estuaries, and other critical areas.
- Increased energy demands which require more power facilities, pipelines, and transmission lines.
- Growth in petroleum and related shipping increasing the risks of serious ecological damage due to spills and accidents.
- Increased pressure on the coast to accommodate resort and tourist-related development.
- Lack of clearcut jurisdictional distinctions among the various federal, state, regional and municipal agencies with coastal zone responsibilities.
- Current taxation policies which assess coastal resources on the basis of developmental potential.
- Underutilization of coastal resources for economic development.
- Private ownership of small tracts of coastal land.
- The exclusion of defense activities from coastal zone regulations.
- The problem of defining a workable, and recognizable coastal zone boundary for management purposes.
- Vague definition of "public interest" with respect to both the development and preservation of coastal resources.
- Inadequate funds to meet needs for land acquisition for public recreational development.
- Absence of public knowledge for support and promoton of coastal zone objectives.
- Loss of ecologically valuable marshlands from construction of residences, marinas, and from filling, dredging, and disposal of dredge material.
- Lack of advance planning to protect critical coastal areas of ecological significance.
- Lack of proper land use controls which result in the elimination of open space areas for wildlife and recreation.
- Decreasing availability of coastal lands aggravating competition among industrial, commercial, and residential developers.
- Inability of existing land use control mechanisms to preserve resource values and provide options for future generations by minimizing irreversible commitments.

PRESENTATION AT LONG ISLAND SOUND STUDY PUBLIC HEARING
JANUARY 7, 1975

My name is Dick Guggenheim and I am presently employed as a staff planner with the Southeastern Connecticut Regional Planning Agency. I am here tonight not representing the RPA, but a group of approximately 20 individuals called the Southeastern Connecticut Coastal Zone task force with whom I have been working under a one year pilot study grant from DEP under the Coastal Zone Management Act.

The task force met last night in anticipation of this hearing and asked me to relay the following thoughts:

I. The first concerns the study itself. In general it is that during the LISS planning process, there appears to have been a gradual attrition of technically sound, yet controversial, ideas as opposition to them emerged. The result appears to have been twofold:

a) The first is that this final document, for the most part, seems to be made up of the residue of non-controversial ideas.

b) The second is that the staff appears to have inconspicously tempered some hard technical aspects of the remaining recommendations with political considerations unrelated to technical problems.

What is left is a diluted set of quasi-technical recommendations which have little or no sense of priorities and do not really seem to be focusing on achieving the Long Island Sound Study's original objectives, or any distinctly identifiable objectives for that matter.

II. While the Study's proposals for consolidation of petroleum transport facilities appears to be an improvement over present conditions, it would seem logical to entirely eliminate petroleum tankers on the Sound.

In support of this, 3 factors are clear: The first is that the consolidation of ports will require concommittantly larger tankers in order to handle the volume. The second is that an accident of this magnitude in the Sound would be disastrous. The third is that we can be most assured that the statistical probabilities are against us in this regard. Thus, it seems perfectly logical that if we truly intend to clean up the Sound and keep it clean, we should consider creating an offshore birth, possibly off the south shore of Long Island

and then piping the oil through New York and into Connecticut. Although our task force recognizes that this would be more costly, they believed that benefits accrued would be significant.

III. The Long Island Sound Study proposes massive public expenditures for cleaning up the Sound. These include not only expenditures for water pollution control, but for the reorganization of the petroleum delivery system and other matters as well. On the other hand, the proposed expenditures for access to the Sound for people are quite modest by comparison. Put another way, access to the Sound is largely controlled by the unresolved constitutional issue of the taking of private land. However, prior to the implementation of this plan this issue must be balanced by the counterpart issue of the giving of public funds. That is, why should the public incur the massive costs of cleaning up the Sound if the major benefits are going to be accrued only by those few who enjoy or benefit from it now?

The Coastal Zone task force was especially concerned about the proposal for Coastal Zone Management which it felt was weak and represented a "band-aid" when major surgery was in order.

In short, the Coastal Zone task force felt that the proposed management structure would be inadequate to initiate, plan or implement projects of the kind proposed in the LISS. Instead of a management body, it would simply be a quasi-regulatory body with limited powers and would not represent a significent improvement over the present system of local jurisdiction.

The task force was most concerned that in the consideration of management alternatives there was no overt consideration of the relationship between land use decision-making and the local property tax structure in the development of a Coastal Zone management proposal.

And finally, the summary document is still not without its myriad contradictions. For example on the one hand we are asked to endorse the expenditure of funds for such things as studying the potential for modifying hurricanes. At the same time we are also advised that hurricanes provide a prime opportunity for recovering coastal land and that funds should be set aside for such.

In conclusion, it is these kinds of disintegrated recommendations that leave one wondering whether there is any real hope for LIS.

11/23/74

State plan is source of worry

STONINGTON — Concern about the effect on the town of a proposed Coastal Zone Management Act, passed by Congress in 1972 has been expressed by Planning and Zoning Commission Chairman Joseph A. P. Adriano.

Stonington

Adriano brought up the issue after Albert Ricker was chosen to represent the commission on a task force which will make a one-year pilot study of the proposed zone.

The study is being undertaken by the Southeastern Connecticut Regional Planning Agency under a grant received from the State Department of Environmental Protection. The goal is to develop recommendations to involve local governments and regional planning agencies more fully with coastal zone management along Long Island Sound and the Thames River estuary.

Adriano said that if it is eventually implemented it could have a far-reaching effect on the use of coastal areas in the town.

"It appears to me that they could come in and conceivably take a chunk of our coastline and assume control over its use with the town having no voice whatsoever," he said. "I feel that we should definitely have someone on that task force to stay abreast of what is going on and to keep townspeople informed. We don't want this to hit us all at once and then not be able to do anything about it."

Adriano also urged that other agencies in the town such as the Selectmen and the Conservation Commission, seek representation on the study committee, "so we can make our feelings known about the proposal."

Citizens' group proposes changes to Sound study

New Haven

The Connecticut Citizen Research Group (CCRG) has called for changes and additions to the Long Island Sound Study Report now under consideration by the New England River Basin Commission.

The citizen group, an off-shoot of the Connecticut Citizen Action Group, said it considered the report inadequate without more consideration of the dangers of nuclear power, oil refineries and offshore drilling.

CCRG Environmentalist Katharine Preston said at a New Haven hearing that goals set out in the report were well conceived, but that it was far too general.

"The report is laudable in the goals it seeks to achieve, but disappointing and often contradictory on specifics. Before the report is finalized, it must include a clear set of reasonable methods of preserving Long Island Sound as the state's most valuable natural resource," she declared.

CCRG called for an environmentally and economically sound program for insuring public access to the shoreline areas for all Connecticut citizens.

"The report correctly recognizes the vital need for opening up the Long Island Shore areas to all the citizens of Connecticut whether they live at the shore or not. But the methods for achieving this goal are ill-conceived. It is difficult to understand how the report could urge public access in one breath and at the same time call for preserving 15 shoreline areas in the Long Island Sound Heritage system," Miss Preston said.

"Furthermore, the report recommends that 'artificial islands' be created and some of the Sound beaches be extended. Both of these proposals are not only environmentally questionable but would also cost so much to maintain in the long term as to be economically disastrous," she added.

As an alternative, CCRG proposed that the state purchase access rights to the shoreline areas.

Praising energy conservation measures proposed in the plan, the CCRG criticized the cursory examination of the nuclear power safety problems and the dismissal of the oil refinery issue and offshore drilling problems.

"It is difficult to see how the plan could ignore such crucial issues as development of an oil refinery and offshore drilling in view of recent state and federal government statements as to the adverse environmental effects that could result from either proposal.

"No one should skim lightly over the nuclear power safety question when recent information has shown increased radiation levels in fish in the Sound. No final report by the Study would be anywhere near complete without a careful examination of the environmental effects of these problems," Miss Preston emphasized.

"We call upon every hard-working contributor to this plan, every elected and appointed official concerned with the welfare of the people of the Sound, and most of all, every citizen in the region, to keep pushing, keep talking, keep demanding, until a well-planned, clean, and viable Long Island Sound region becomes a reality instead of just a hope," she concluded.

11/14/74 Groton, New London

SRG

Shore owners oppose making beaches public

OLD SAYBROOK — Shoreline residents here invoked local traditions, and the legacy of their forebears at a hearing Tuesday night to review the federal Long Island Sound Study, which proposes state acquisition of private beach land.

More than 100 , chiefly from Old Lyme, Old Saybrook, Essex and Westbrook, solidly opposed the recommendation of the $3-million plan that the state open up more private beach areas to the public for recreational use.

Beach residents voiced fears of "oversaturation" by outsiders at the beaches, overemphasis on recreational needs in the study, and domination by the state of local decision-making regarding the beach properties.

Final changes

The federal plan for Sound conservation and development now will undergo final changes for publication in May. Study Manager David Burack, who chaired the hearing, recently said that local objections to plan provisions could mean last-minute revisions.

The study advocates state acquisition of land at Hawk's Nest and Soundview in Old Lyme, and the state-supervised expansion of Hammonasset State Park in the Clinton area. A number of similar proposals were made n Westbrook.

Such decisions would be made through a coastal zone management body, which would "encourage states to exercise their full authority over the land and waters," according to a federal law passed in 1972. This has angered beach residents from Waterford to Clinton.

Earl Lenfield, an Essex landowner, said such a management program would give the state "authority over our zoning, our planning, and our elective officers. This to me is very objectionable."

Charles Pratt of Noank, who owns Essex property, said: "It is unwise to open the land to public recreational development. The report has too little concern for conservation, and (our) desire to live an abundant life based on nature's law."

Pratt, who was applauded, is press secretary to the Bluff Point Citizen's Advisory Council that is opposed to the study-backed development of a recreational site at Bluff Point in Groton. Lois King, whose family has maintained a cottage at Plum Bank, a flood-prone area in Old Saybrook for 50 years, recalled the days when the town had one general store.

"We'd have families in that cottage during major storms, and we always rebuilt," she said. The Sound study forsees public use of Plum Bank.

Advocate

The sole speaker to defend the study was Dorothy M. Barnes of Gales Ferry — who owns no beach property. She advocated a quota of public parking spots at the town beaches "to give the public a little green light," and thus avoid forced state acquisition of property.

J. W. Sonnichsen of Madison disagreed. "The report overemphasizes recreation," he said. "People bring pollution to the beaches. Let the state develop more internal areas so they won't bring more people to the shore." He was also applauded.

Burack insisted that beach residents in the flood-prone areas would not be "thrown out of their houses," but the Sound study states that a plan "should be operated to encourage individuals not to rebuild after a (flood) disaster. (This) should result in increased amounts of open shoreline over the long term."

NL Day 2/6/75 RG

Coastline unit plan opposed by RTM

Waterford

WATERFORD — A proposal to create an agency to control the use of the Long Island Sound coastline was discussed and opposed Tuesday by the Representative Town Meeting.

The proposal, originated by the Long Island Sound Regional Study Commission, calls for the creation of a "coastal zone management entity", which would have jurisdiction over the use of coastal areas within 500 feet of the mean high water mark and areas less than 10 feet above mean sea level along the coast.

Some land could even be procured by the agency under the study commission's proposal.

Town Clerk Francis J. Pavetti, who attended a recent hearing on the proposal in New London, warned that the town could lose control over "hundreds of acres of land." He counseled vocal opposition.

"Unless we take action, we may wake up to regret it," Pavetti said. He stressed that alternative ideas should be presented in addition to the opposition.

Most of the RTM members were ready to oppose the proposed agency immediately although many confessed that they had not read the commission's study. RTM member William M. Auwood recommended that the issue be studied further before the RTM takes a position.

"We have to think of the sound 50 or 75 years from now," he said.

Moderator Joseph J. Bedalis said he would name a committee to study the issue, but the RTM elected to oppose the proposed agency.

First Selectman Herbert J. Davis said his office and Thomas A. Sheridan, the new development planner, will investigate the study commission's recommendations. A letter expressing the town's opposition will then be sent to state and federal representatives.

Local officials oppose coastal zone proposal

RG

2/8/75 NL Day

STONINGTON — The borough Warden and Burgesses have gone on record against a proposed Coastal Management Zone agency being studied under state and federal sponsorship.

Should the agency be implemented, it could establish regulations for use of all land within 500 feet of the water along Long Island Sound and all land up to 10 feet above sea level.

The board took its action Wednesday night after receiving a letter from A.E. Frasier of the borough who strongly objected to the establishment of a coastal zone.

"It would just mean another land grab by outsiders which could have a most adverse effect on our area," Frasier wrote.

Borough Atty. Samuel Fiore told the burgesses the town will be kept up to date on any developments because it is represented on the study committee formed to investigate the proposal.

Stonington

Planners again oppose regional coastal unit

SRG

The Day 2/11/75

WATERFORD — The Planning and Zoning Commission, in a strongly-worded letter, has once again signaled its opposition to a proposed regional agency with jurisdiction over the use of coastal land in the town.

Such an agency (termed a "coastal zone management entity") has been proposed by the Long Island Sound Regional Study Commission. The proposal also calls for the use of eminent domain to procure certain tracts of coastal land.

The planners believe that the agency would remove control of town lands from the town and transfer it to a more remote and less responsive authority.

"It looks lovely on paper, but has little to do with how a community chooses its own goals or establish its own character," the letter declares.

The letter also points out that three different town charter proposals have all been defeated by the town largely because of the inclusion of eminent domain provisions.

"If the town's people have refused to give the town's people the right of eminent domain, there is absolutely no way they could support the right of the coastal zone management entity to eminent domain," the letter concludes.

Commission member Richard Brooks, though opposing the proposed "entity", had misgivings about the letter's approach.

"It's not a balanced letter. We should challenge the study where it is weak, and not resort to an emotional assertion of local control," he said.

The proposed "entity" is only one provision of the study which includes provisions for regional pollution monitoring, control of the uses of Long Island Sound, and others.

Thomas A. Sheridan, the town's new development planner, said he had contacted a number of other coastal towns and a few had voiced similar opposition.

"Many didn't even know about the study," he added.

N.L. Day 2/12/75

Spellman letter supported

Board opposes coastal authority

STONINGTON — The Board of Selectmen has gone on record as opposed to the creation of a state or federal authority which would assume jurisdiction along the coast within 500 feet of the mean high water mark and less than ten feet above mean sea level.

The opposition is expressed in a letter written by First Selectman James M. Spellman. The board approved the letter draft Tuesday and it will go to the Long Island Sound Regional Study in New Haven.

Pointing out that the town has a very beautiful and valuable shoreline on Long Island Sound, Spellman wrote that town zoning regulations provide for flood-plain protection and that there is an active citizen interest at planning and zoning meetings and in the future protection of one of the town's natural resources — its waterfront and adjacent waterways.

Stonington

Spellman said the town is already in the middle of extensive water pollution control which incluses construction of three secondary treatment plants. "The completion of this program will eliminate all direct discharges of untreated waste into the Sound," he wrote.

Stonington could become the first town in the state to have totally eliminated discharges of untreated waste into its waterways once treatment installation is completed.

"One of the most precious rights which local governments still retain is the authority to establish regulations in accordance with provisions of the general statutes of the state," Spellman said.

He added, "It is my firm opinion that the best interest of the town and the state will be served if the control is left in the hands of local government acting in accordance with guidelines established by federal and state regulations.

"I am and have been in the past opposed to the enactment of any federal or state laws which will take away the autonomy of local government in planning and zoning authority.

Spellman termed a proposal to make Ram Island a part of the Bluff Point Recreation area unrealistic because of the distance from Bluff Point.

He also criticized proposed access to Dodge and Andrews Islands from Latimer Point.

"This would raise many legal questions and it has been the overwhelming opinion of the people of this area that those two islands should remain undeveloped in any way other than for wildlife preservation," he wrote.

Similar opposition to a Coastal Management Zone was expressed last week by the Borough Board of Warden and Burgesses.

Town of Waterford

200 Boston Post Road
Waterford, Conn. 06385

February 6, 1975

Long Island Sound Regional Study
New England River Basins Commission
290 Orange Street
New Haven, Connecticut

Gentlemen:

Prior to your adoption of a final report, the Planning and Zoning Commission of Waterford, Connecticut would again like to register its comments with your agency.

In our May 30, 1974 letter to you, we expressed our grave concern over local citizens losing control over their community's use of land. We would again like to express this fear in the strongest possible terms. The people in the Town of Waterford and the members of the Planning and Zoning Commission more particularly, have found that as local controls disappear onto state and federal levels, the more we the people become just statics, meaningless lines on a graph, squiggles on a map. It looks lovely on paper, but has little to do with how a community chooses to achieve its own goals or establish its own character.

Your latest edition of the Long Island Sound Study refers to a Coastal Zone Management Entity. What is this but outside control? How does our community (or any other, for that matter) get a chance to say "No" on any given issue? How do we get our "No" to stick?

You speak of "certain key parcels of shore front land must be purchased immediately, in the same way land is bought for the public when a highway is built. Other parcels should be purchased, or the public rights to their use secured in accordance with a long term strategy". What is this but emminent domain?

Waterford has gone to referendum on three different occasions to vote down proposed charters. The main reason: An adopted charter would have given the town the right of emminent domain. Now if the town's people have refused to give their own elected officials the right to emminent domain, there is absolutely no way they would

Town of Waterford

200 Boston Post Road
Waterford, Conn. 06385

Support the right of the Coastal Zone Management Entity to emminent domain.

Give us guide lines. Make recommendations. Monitor potential polluters. But do not force an all-powerful dictatorship on our citizens.

Janet Polinsky, Chairman
Planning and Zoning Commission

JP:jr

CC: Governor Ella Grasso
Senator Richard Schneller
Representative Winifred Tanger
Selectman Herbert Davis
Mr. Horace Brown
✓SCRPA

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The Environmental Review Team

Connecticut Region Tries Interdisciplinary Review of Proposed Developments

By
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Project Director
Environmental Review Team
Eastern Connecticut Resource Conservation and Development Project
Norwich, Connecticut

EDITOR'S NOTE: *An interdisciplinary environmental review team was established in Eastern Connecticut a few years ago to assist local governments and developers assess the environmental impacts of proposed large scale development. The team utilizes existing staff of the participating agencies on a loan basis, and its only full time separate staff is the project director. This case study tells what the environmental review team is and how it works and offers suggestions for other areas which may wish to try a similar endeavor.*

The Eastern Connecticut Resource Conservation and Development Project was established in 1967 in accordance with the *Food and Agriculture Act of 1962* and is sponsored by the State of Connecticut Department of Environmental Protection. Agencies participating in the project and supplying personnel to the environmental review team include the: USDA, Soil Conservation Service; Middlesex, New London, Tolland and Windham County Soil and Water Conservation Districts; State of Connecticut Departments of Environmental Protection and Health; University of Connecticut Cooperative Extension Service; Connecticut River Estuary, Midstate, Northeastern Connecticut, Southeastern Connecticut and Windham Regional Planning Agencies; and Eastern Connecticut Development Council.

Within Eastern Connecticut, towns and developers may request the assistance of an Environmental Review Team (ERT) in the evaluation of proposed residential, recreational, commercial, industrial and municipal projects prior to their final approval. The objective of the ERT is to provide input into the decision making process which will aid in the development of better environmental quality and the long term economics of the land use. In reviewing a site, the ERT identifies the existing natural resources, evaluates their significance to the proposed development, and highlights potential problems and opportunities.

The concept of an interdisciplinary environmental review was conceived in 1968 by Robert C. Young, AIP, then director of the Windham Regional Planning Agency. It was developed by the Eastern Connecticut Resource Conservation and Development Project Land and Water Resources Committee in response to the problems presented by increasing numbers of residential subdivisions. Subdivisions were being designed and approved without adequate consideration of the natural environment, resulting in problems with sewage disposal, water supply and drainage, and overall loss of the natural qualities that contribute to the area's attractiveness.

Social, political, and economic factors have formed the basis of most land use decisions. This can be attributed in part to a lack of environmental awareness, but also to the unavailability of much natural resource data and to the layman's inability to interpret and use the data effectively when available. Even with mapped data, an on site inspection is also necessary for an effective review of a proposal. Therefore, it was felt that a team of pro-

fessionals, in the areas of natural resources, engineering, and planning, could help to fill a gap in the decision making processes by evaluating proposed developments from an environmental viewpoint and providing this information to the towns and developers in a usable format.

The ERT in Eastern Connecticut, though first established in 1969, has been most active in the past two years, due to the receipt of funding which has provided for a full time coordinator for the program and has covered administrative costs. Throughout the team's history, considerable effort has been put into developing procedures and materials which can provide both consistent quality and flexibility. The scope of the ERT's activities also has broadened with experience to include all types of land use proposals.

With over 50 reviews completed, the ERT in Eastern Connecticut has been shown to be a valuable aid in the planning and review of proposed development projects. It is a concept which could be adapted to the specific needs and the available resources of many other areas. This article will describe the procedures followed in Eastern Connecticut, the results of past reviews, and key factors to be considered in establishing similar programs elsewhere.

The types of projects reviewed by the ERT have included residential, recreational, commercial, industrial and municipal land uses. Generally they have been larger in scale than the town was experienced in handling, had obvious potential negative impact due to the nature of the project and the site, and/or owners or officials were looking for alternatives in terms of land use or sites.

Review Procedure

The procedure which has been developed in Eastern Connecticut for conducting reviews has some aspects peculiar to the area and the relationships existing among agencies. However, the process as a whole is based on the cooperation of all parties: the town, owner and/or developer, and ERT participants.

The first step in a review is the formal request from the town and the developer. The request should include letters from both the town and developer, a location map, surveyed plot plan and any engineering tests (if available), and a statement of intended use. If the property owner is other than the developer, his permission to conduct the study is required also. It is most beneficial if the local commission(s) having some authority over the project is (are) involved. This is usually a planning and zoning commission, though the ERT also has worked with inland wetlands agencies, economic development commissions, parks and recreation commissions, housing authorities, and solid waste committees. In towns lacking these bodies, the chief executive official usually makes the formal request.

A letter of request first is directed to the applicable county soil and water conservation district for its approval as a project measure. This serves two purposes: first, district board members often have local insight into the projects and how the team may or may not be able to assist; and second, approval is required for participation by Soil Conservation Service personnel. The request then is forwarded to the Eastern Connecticut Resource Conservation and Development Project. For projects similar in scale and proposed land use to previous reviews, the Land and Water Resources Committee has the authority to approve and schedule projects for review. In unusual cases, such as horse racing facilities, the committee evaluates the request and makes a recommendation to the executive council, but leaves the final decision in the hands of the council.

Once a project is approved, it can be scheduled for a field review. Two projects per month is the limit which has been established, based on the available time of team members. For convenience and consistency, we have set the first and third Thursdays of each month as review dates.

Notices are sent by the coordinator to ERT members two weeks prior to a review. Included in the notice is a general description of the proposed development, any particular concerns of the town or developer, soils and topographic maps of the site, and any mapped or technical information provided by the developer (e.g. site plan, test hole data, etc.). These materials are compiled by the coordinator. The town and the developer are also notified at this time and requested to participate.

The basic ERT used in Eastern Connecticut consists of the following personnel, provided by the participating agencies of the RC&D Project: soil scientist and/or district conservationist, civil engineer, geologist/hydrologist, forester, fish and wildlife biologists, sanitarian, climatologist, landscape architect and community planner. However, the composition of the team is varied to meet the needs of specific projects. In a few cases involving small parcels of land, there have been as few as three individuals involved. In other cases, one or two persons may be eliminated if there does not appear to be a need for them, e.g., a fish biologist for a project with no existing or proposed waterbodies on or near the site. There also have been instances where the team has been expanded to suit the needs of a project; for the review of a proposed horse racing track, specialists in transportation, air pollution, solid waste, and horses were added.

There is a significant side benefit of using personnel from existing agencies on a request basis, rather than having a single team conducting reviews on a full time basis. Any one team member will still spend the majority of his time working for his respective agency. He will thus be in continual contact with other developments in the state within his field which might contribute to or have an impact on a specific project. Also, the team experience provides for an interaction between agencies which might not otherwise occur.

On the day of the field review, the ERT, developer, and town representatives meet at the town hall or other location convenient to the site. A preliminary meeting conducted by the coordinator is held here before going out to the site, the purpose of which is to review the background information sent with the notice and to give all parties involved the opportunity to ask questions. It is particularly desirable to have the developer present to answer specific questions on his proposal.

The actual site review consists of walking over the site as a group. The time spent on a site will vary according to its size and variety, though it generally does not exceed two hours. The emphasis in the field is on an exchange of ideas, plans, concerns, alternatives, etc., between the persons present. Being on the site also gives team members a chance to double check mapped information, such as soils, topography, and surficial and bedrock geology, and identify other resources, such as the existing vegetation and its wildlife value.

Following the field review, a summary meeting is held at the site, or indoors during inclement weather. This meeting is primarily for team members, though the de-

Environmental Review Team Work Sheet

Reviewer_____ **Location**_____

Discipline_____ **Date**_____

GENERAL STATEMENT (Including description of site relative to the specific discipline of the reviewer)

SPECIFIC ITEMS FOR EVALUATION	CONCERNS
1. Water Supply	
(a) municipal or community service in area	ability to expand service feasibility of transmission lines
(b) on site	availability of supply relative to need, quantity and quality
2. Waste Disposal	
(a) sewers	ability to expand service feasibility of transmission lines
(b) on site	septic system adequacy and host conditions
3. Foundation Development and Graded Conditions	substratum support, drainage, slope stability, erosion and sedimentation
4. Roads and Utilities	
(a) existing	increased design capacity, feasibility of physical expansion
(b) additional	functional road needs, feasibility of construction
5. Hazards	
(a) natural	identification of natural hazards
(b) man induced	avoidance of produced hazards
6. Aesthetics and Preservation	unique and fragile features, ecological habitats, historic sites, vistas, etc.
(a) forestry	
(b) wildlife	
(c) fish	
(d) other	
7. Services to Support Development	do proper services exist, can they be expanded, or supplied by developer?
8. Compatibility of Surrounding Land Uses	compatible development
9. Alternative Land Uses for Area	best use for land relative to existing resources, priorities on uses of land

ADDITIONAL COMMENTS BY REVIEWER FOR WHICH THERE IS NO APPROPRIATE PLACE IN CHART AND SUMMARY OF CRITICAL ASPECTS

Time Spent on Review—Field_____ Report_____ Total_____

veloper and town representatives may remain for it. With the coordinator acting as moderator, the various aspects of the development are discussed, with consideration given to potential problems, means of prevention or correction, and alternatives. This meeting helps individuals to identify those areas which should be covered in their reports and what additional information may be needed.

In preparing their individual reports, ERT members are requested to follow a standard format. A work sheet is distributed to all members at each review by the coordinator. The breakdowns used on the field sheets are listed on the accompanying art. Reports can be handwritten or typed on the form or on a separate page, with the general headings indicated. Each member places his comments where suitable. No one member normally comments on all areas.

Team members are requested to submit their reports to the coordinator within two weeks following the review. However, experience has shown that it usually takes three to four weeks to get all the reports. Once the reports are in hand, the coordinator compiles the final report. This involves some rewriting, editing, layout of the report, and preparation of any maps or other visual aids. Final drafting of art is done by a draftsman. The report follows the same format as the work sheets with a description of the existing resources preceding the phase by phase discussion of the project. Comments from various team members are combined under each specific heading. The soil map and chart of urban limitations of the soils is presented in the appendix, along with any other technical information too lengthy or involved to put within the body of the report. The report format is varied when the proposal does not lend itself to the standard breakdowns.

When the final report is completed, the coordinator sets up a meeting with the local commission(s) and the developer. When time permits, copies of the report are sent in advance to all persons invited to the meeting. Otherwise, the reports are distributed at the meeting. The coordinator and one of the team members, usually the district conservationist, first summarize the report, highlighting major concerns. Then a question and answer period follows in which the commission members and developer may ask for clarification or further explanation of specific parts of the report.

Generally speaking, the ERT's involvement with a project ends at this point. Though later questions can be submitted to the ERT coordinator, further action on the project is now up to the town and developer. On occasion, an individual team member may be able to follow through on a specific aspect of the project within the jurisdiction of his regular position, e.g., the district conservationist may assist in preparation of a conservation plan.

To encourage requests from the towns, an informational or educational program of some sort is necessary. In Eastern Connecticut, a brochure describing the ERT and the procedures for requesting a review was distributed to chief executives and local commissions in all towns. State, regional, and RC&D newsletters also publicized the ERT's existence and availability. All of these materials have helped to familiarize towns with the ERT. However, when it came down to making an actual request for the first time, most towns did so at the personal recommendation of a district conservationist, regional planner, sanitarian, or other person involved with the ERT.

One of the major inducements for using the ERT is that it is provided at no cost to the town or developer. Even a minimal charge would inhibit most towns from using the ERT due to the administrative and/or political problems that would arise in securing the local funds. This is particularly true in the smaller towns whose budgets do not allow much leeway. Providing the service free of charge also contributes to maintaining the ERT's position as an impartial and objective group.

Another aspect which may affect the willingness of a town to request a review is the accessibility of the coordinator. In Eastern Connecticut the coordinator is located in the Southeastern Connecticut Regional Planning Agency in Norwich which is fairly central to the project area. Not only does this reflect items such as the cost of long distance calls, but also the subjective overtones of calling in an outsider. This would be even more true if the coordinator were located in the office of a regulatory agency. Though many small towns are seeking assistance in dealing with large development projects, they are also leery of being told what to do by higher governmental agencies. Our experience has indicated that the substate regional level is close enough, both physically and psychologically, to the local level of government to be an effective point at which to place the coordinator.

Evaluation of the ERT

The purpose of the ERT is to educate people, specifically landowners, developers, and commission members, to utilize the land most effectively with the least amount of environmental damage. Natural resources should be a key factor in making these decisions. The environmental review is designed to establish a natural resource information base and provide the interpretations necessary to judge the continuation, modification, or abandonment of specific projects. To evaluate the impact of the ERT on past projects, a followup study was conducted a year ago on the first 40 reviews. Only six projects were identified where subsequent decisions were contrary to recommendations of the ERT. Use of the other 34 reports has varied according to the particular situation, the individuals involved, and the manner in which the review was conducted; but in all cases the report was used beneficially. From these experiences, aspects contributing to or detracting from a successful review have been identified.

Project Characteristics. As mentioned previously, the ERT has expanded its activities to include all types of land uses of both public and private nature. This has added interest to the reviews by presenting different problems and opportunities for the various disciplines involved. However, in projects which will be under direct regulatory approval and control (as in landfills and septage lagoons) the contribution of the ERT may be limited and should be evaluated prior to approving the request for a review.

The size of the projects ranged from under 50 acres to

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over 200 acres. It did not appear to affect the quality or usefulness of the reports, though it did influence the level of detail. On smaller sites, the team members were more specific as to the distribution of resources, problems to be encountered and means for minimizing these problems. On larger sites, these same types of guidelines were given, but on a more general level. Extremely large projects, such as a new community proposal, were not undertaken due to the extraordinary scale and the time that would be necessary to develop a useful product.

Another factor affecting the level of detail within the final report is the stage of the development plans when the team is requested to review a site. The plans have ranged from the verbal stage where only very general plans have been formed; to conceptual or preliminary plans showing the approximate configuration of the proposal; to final development plans with roads, lots, drainage, and so forth fully designed.

Comments and recommendations on sites with detailed plans tend to be more specific in nature, but narrower in scope. On sites in the early planning stages, comments may be less detailed, but the possibility for major alterations in the plans is greater and therefore allows greater flexibility when considering alternatives for the site. Thus the team appears to have a greater potential for assistance and beneficial impact on the final project if the development plans are in the early stages.

Team Participation. As described earlier, the ERT in Eastern Connecticut has a standard composition which can be enlarged or reduced according to the specific needs of a project. All personnel are loaned by their respective agencies at no cost as part of their participation in the RC&D Project. Though it is not in written form there is a general understanding that the ERT will conduct only two reviews per month. Where agencies are divided on a regional basis, specific team members may participate once a month or even less frequently. This arrangement has worked satisfactorily, but in areas lacking a framework such as the RC&D Project a more formal agreement might be desirable.

The prime challenge to ERT personnel is the necessity to maintain a technical and professional point of view and to maintain credibility while conducting review activities. The ERT has been generally successful in accomplishing this to date. Some of the items contributing to this acceptance include: avoiding prejudgment, keeping an open mind and interchanging ideas with all participants in the field. Both in the field and in writing reports, the reasoning behind recommendations should be clear and objective. The ERT should point out concerns, limitations, alternatives, and areas of possible tradeoff. It should not act as an advocate of one point of view or another. Balance should be maintained to preserve an objective manner.

Participation by Town and Developer. Request for ERT assistance must have the written approval of both the town and the developer. In addition, participation during the field review by both parties is strongly encouraged. This usually involves a representative of the local commission(s) involved, the developer, and his engineer. However, too many extra people can cause problems in conducting the field review.

With both parties involved from the beginning, there generally have been fewer disagreements as to the contents of the reports. Experience has shown that when a party is absent from the field review, he is more likely to be skeptical about the contents of the report and feel they may have been misrepresented by the other party. The greatest potential appears to exist where both the town and the developer are attempting to incorporate the ERT's information into their decisions and cooperate in the development of acceptable plans.

Individual and Team Reports. When it comes to writing reports, individuals vary considerably in their abilities and desires. Also, the time available to team members for preparing their reports varies from one review to another. Therefore, it is unrealistic to expect individual team member reports to be consistent in content and presentation. However, it is reasonable to expect a certain basic level of information and interpretation, with further elaboration and discussion when possible. The initial heading on the field sheet, General Statement, should include a description of the site relative to the reviewer's discipline. This can be accompanied by maps, which not only offer a visual aid, but also reduce the amount of written material. Descriptions should be geared to the layman. The general statement provides the basis for later comments and suggestions regarding the proposed development.

The specific items for evaluation shown on the field sheet can accommodate most aspects of most proposals. Occasionally, it is desirable to treat one portion of a proposal separately, e.g., manmade lake in a residential development. It is important, however, to maintain flexibility in the format of the report. In a few instances, the particular situation necessitated a different format, in which case the major questions to be answered were discussed during the summary meeting at the site.

The question has been raised as to whether the ERT report can be used as an official Environmental Impact Statement (EIS). The answer to this is a qualified no. Generally, the ERT reviews a project prior to its final planning stages when the details of the project needed for an EIS are not yet available. Areas of environmental concern and means of prevention or control of potential damage are identified. Hopefully, the information provided will help the developer to prepare plans which take into consideration the existing and future environmental quality. It also will provide a basis from which the town can review the final proposal. If the project is one which will require an EIS, the ERT report would help in determining those areas which should receive the closest attention and might provide some of the basic inventory data required. However, much of the detail which would be required in an EIS, such as detailed designs or engineering tests, cannot be provided by the ERT.

Adapting ERT to Other Areas

The concept of an interdisciplinary environmental review team appears to be of potential use and value throughout the country. It is particularly valuable for small towns which do not have professional staff available and are faced with increasing development pressures.

The key element contributing to the successful operation of the environmental review team in Eastern Connecticut has been the cooperation among participating federal, state, and regional agencies. The prior existence of the RC&D Project provided the vehicle for bringing these agencies together. It has continued to perform an instrumental role in directing the activities of the ERT, improving its operation, and maintaining the channels of communication among the agencies.

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In developing teams elsewhere, other RC&D Project areas would be logical places to start. In areas lacking the RC&D program a policy committee including representatives of the agencies who will participate in the ERT should be established. Though working through a committee structure may seem cumbersome, it will help avoid conflicts between separate agencies since decisions are made jointly. Also, if an ERT can be associated with an independent body, it will assist in maintaining a team identity separate from any regulatory activities of the participating agencies.

Though it is possible to operate an ERT without a full time coordinator, it is not recommended on a permanent basis. During the first four years in Eastern Connecticut, this responsibility was rotated among various team members. This resulted in reports of varying quality, depending largely on the time and resources available to the coordinator. It also limited the number of reviews able to be conducted.

The major obstacle to having a full time coordinator is the funding. Including administrative costs, this has averaged about $25,000 per year. Beginning in 1973, the New England Regional Commission provided a demonstration grant through the Southeastern Connecticut Regional Planning Agency to support the first 15 months of team operation with a full time coordinator. At present, administration of the team is supported by a 75% grant from the U.S. Economic Development Administration through the Eastern Connecticut Development Council, with the 25% matching funds provided by the five regional planning agencies in Eastern Connecticut.

As far as the actual composition of a team is concerned, it would have to vary according to the availability of personnel. For example, planning input in Eastern Connecticut is provided by the regional planning agencies. In an area without such agencies, a team might draw from a state planning office, councils of government or municipalities. It also would be possible to use professional consultants, though this would significantly increase the initial funding requirements of a team.

Another factor to be considered in establishing an ERT is the geographical area to be covered. If traveling time to and from a site exceeds the time spent at the site, it may not be possible to justify a team member's involvement. Therefore, counties, councils of government or planning regions might be the most logical basis for determining the geographical extent of an ERT.

Another geographical consideration is the climate of an area. In extremely cold weather or snowcovered conditions, it has been difficult to assess on site conditions; and team personnel have had to rely heavily on mapped information. In Connecticut, these conditions may prevail on one or two reviews per year, so we conduct reviews year round and reschedule reviews if necessary. In more severe climates, though, it may be desirable to establish an ERT on a seasonal basis.

Much of the developmental work done in Eastern Connecticut regarding procedures, field sheets, reports, etc., can be used in establishing teams elsewhere by starting with these materials and adapting them to fit the needs of a specific area. However, the success of a team still will rely primarily on the cooperation between participating agencies and on the professionalism and objectivity of the personnel.

Conclusion

The Environmental Review Team has been of value in Eastern Connecticut. The response from the towns having used the team has been generally favorable, and many are returning with requests for assistance on new projects. There also has been interest expressed by some developers and real estate agents on reviews as to the availability of the team in other parts of Connecticut. Just recently a new RC&D Project was established in western Connecticut, and efforts are now being made to establish an ERT there.

Part of the attractiveness of the ERT is the utilization of existing personnel within the area. Though this presents a cost to the participating agencies in terms of lost time on other projects, it provides a long term benefit to the area and the agencies. By providing an advisory service of preventative nature now, it may be possible to avoid regulatory problems of a corrective nature in the future.

The benefits of this service accrue to developers, homeowners, towns, and the state. For the developer, particularly when assisted during the early stage of a project, costly problems may be avoided by his becoming aware of a site's limitations and by incorporating prevention and control measures into his plans. With proper planning and construction, homeowners will also be spared the cost of corrective measures for items such as septic failures and flooding. In the long run, the town and state will also benefit in such areas as road maintenance, flood control, and sewer construction.